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THE FARMER AND PLANTER



PRICE, \$1 A YEAR, ALWAYS IN ADVANCE.

PUBLISHER'S CORNER.

OUR PROSPECTS BRIGHTENING.

It is with no ordinary feelings of pride and satisfaction that we announce the fact that during the past month our subscription list has so greatly increased, that we are now confident that the *Farmer and Planter* will become permanent. Not less than **Four Hundred New Names** were added to our list, during the month of March. This is cheering to us, and we most sincerely thank those kind friends who have so nobly interested themselves for the journal. A few more such strong pulls and the *Farmer and Planter* will be pulled out of the mire of despond, in which it has been sticking for so many years. Let the friends of the journal continue their efforts two months longer, and the *Farmer and Planter* will be a better and permanent journal.

Who will get the \$50 Premium? Don't all speak at once.

OUR MARCH NUMBER.

Since the issue of our March number our subscription list has increased so much that we have run out of the edition we then printed. We are now re-printing that number, and will forward it in a few days to those who have not received it. We are printing *one thousand* more, and hope that every copy will be wanted.

FINE STOCK FOR SALE.

We refer our readers to the advertisement of Capt. FRANK HAMPTON. We can assure them that all animals purchased from him, will be pure stock. We shall be pleased to attend to any orders left with us, and will attend to their shipment.

TO DISTRICT AGRICULTURAL SOCIETIES.

We wish to insert a table of the time of meeting of each Agricultural Society in the State, and respectfully ask the Secretaries of each to inform us of the time and place of meeting.

WHAT'S THE REASON?

Our subscription list is now larger than any paper in the State, and, strange to say, we have the least advertising patronage. Our journal goes into the hands of the most intelligent and best planters in the State, and is carefully preserved for reference, while all other papers are read and thrown aside immediately.

We have the enormous number of twenty-five subscribers in the city of Columbia, and but one advertisement each from the Dry Goods, Grocery and Hardware interests of the capital of our State. We hope our readers will remember Messrs. FALLS & KINARD, ALLEN & DIAL, and E. HOPE. They are enterprising and prosperous merchants, and well worthy the patronage of the farmers and planters of our State.

CONTENTS OF APRIL NUMBER.

AGRICULTURAL.

	PAGE		PAGE
The Farmer vs. the Planter.....	97	The Hog Cholera.....	118
Barefooted Notes on Southern Agriculture.....	101	A Day in the Orchard.....	119
Fences.....	102	Humbugs.....	120
"Apples of Gold in Pictures of Silver.".....	103		
Velocity of Sound.....	105	HORTICULTURAL, POMOLOGICAL, &c.	
Mechanical Treatment of Soils.....	106	Monthly Talk with our Readers.....	121
Cure for Heaves in Horses.....	107	To Kill Worms in Peach-tree Roots.....	122
Hog Breeding.....	107	The Character of the Pomologist.....	122
The Four Organic Elements.....	108	"The Farthest Way Round is the Nearest Way	
Saving Seeds.....	109	Home.".....	123
Insects on Stock.....	109	Functions of Leaves.....	123
Chemical Treatment of the Soil.....	110	A Liquid Fertilizer for Choice Plants.....	123
The Culture of Grasses in the South.....	111	Care of Old Apple-Trees.....	124
Urine as Manure—its value.....	111	Salsify, or Vegetable Oyster.....	125
Advantages of Pulverizing the Soil.....	112	Necessity of Relaxation.....	125
Benefits of Geological Surveys.....	112	Take Care of Your Eyes.....	126
Four Good Habits.....	112	The way to get Wealth.....	126
Millet for Milch Cows.....	112	Nutritive Qualities of Sugar.....	126
Worth Remembering.....	112	The Geography of Consumption.....	126
		Energy.....	126
EDITORIAL, COMMUNICATIONS, &c.		The Rose.....	127
Omission in the Premium List.....	113	Value of our Forests.....	127
Hints for the Month.....	113	For Sprains in Animals.....	127
The Southern Cultivator vs. Mr. Calhoun's Ad-		Length of a Mile in Different Countries.....	157
dress at the S. C. Fair.....	113		
The Great Peace-maker.....	115	THE APIARY.	
"Tit for Tat.".....	116	Sweets for the People.....	127
Hog Cholera.....	116		
"Sanded Cotton.".....	117	DOMESTIC ECONOMY, RECIPES, &c.	
The Tribune and the Farmer and Planter.....	117	Recipe for Lettuce Salad, Baked Beans, Yeast,	
Chat with Correspondents.....	118	Old English Christmas Plum Pudding,	
		Cookies, &c.....	128



VOL. XI.

APRIL, 1860.

NO. 4

R. M. STOKES, }
PROPRIETOR.

COLUMBIA, S. C.

{ NEW SERIES
Vol. 2, No. 4

For the Farmer and Planter.

THE FARMER vs. THE PLANTER.

MR. EDITOR:—In my last I asserted that *planting* and *farming* were perfectly compatible; that there was a deep rooted prejudice against *book* teaching among our overseers in the rice region, for which their employers are more or less responsible; that the rice planters, as a class of educated gentlemen, have done but little to develope systems of improved culture, and to advance the science of agriculture, from misconceived notions of *plantation* economy; and I promised in this to demonstrate the error of those who practically hold to what they call *plantation* economy as a thing *sui generis* in tide land culture. Before proceeding to the discharge of this promise, allow me, Mr. Editor, to pay a just tribute to one gentleman, whose indefatigable energy and skill, and success as a Rice planter, have placed him prominently in advance of all associates. I mean the Hon. R. F. W. Allston, of Prince George Winyaw. To him is the credit due for the only systematic treatise on Rice culture that I have ever seen. His "Sea Coast Crops of South Carolina," is a treasure of itself, highly appreciated by all who have seen it, but his treatise on Rice, published near twenty years ago, is a rare and valuable production, which should be reprinted and placed within the reach of every agriculturist; and we sincerely trust that Gov. Allston will give us the benefit of a second edition, with all that his enlarged experience can suggest. Such a work is positively needed, and there is no one better qualified for the task than Gov. Allston.

To proceed—*Economy* is a very comprehensive term and must be considered as general or special. When used in the latter sense its signification is

altogether comparative, and must be so understood. We will consider it *agriculturally*, and in advance define our position by saying, that we deny to the rice planter any *special* system of plantation economy, incompatible with the general rules and principles of agricultural economy, as practised by the judicious farmer. Nay, further, that the observance of those general rules and principles will not only prove compatible, but advantageous and profitable to the rice planter. We do not intend to question the fact that, in the cultivation of tide lands, there is a *peculiar* necessity for the judicious application of labor; that at particular times, under certain conditions, there must be a *special* observance of *general* rules. For instance, when the tides are full, the judicious manager will look well to his embankments; when the streams are low and the drainage good, he will bestow immediate and special attention to his ditches and drains. These are items of economy generally understood in all tide land culture. They, with many others, do not, however, constitute a *special system*, separate and divisible from the true economy of the judicious farmer. To illustrate, I shall be obliged to set forth, in detail, things as they are on many of our rice plantations, and let the reader draw his own conclusions. The *picture* may be unsightly, but in discussing *systems* deformities must be exposed to reach the level of truth.

On a large majority of the rice plantations the cultivation of provision crops is a part of their economy. The modern economist deems it almost vital, the old fashioned gentleman considers it but of secondary importance. The latter is a routinist—a mere creature of imitation—following in the footprints of his venerated predecessor—often going

through a long life time without adding a single item to the great loaf of agricultural experience.—His ancestor was well to do in the world, and has left him a goodly inheritance, in lands, negroes, stock, &c.—all that is necessary for profitable husbandry. Fancy yourself, kind reader, on one of these plantations, that has descended from father to son, and let us take an inventory of things as we find them. The economy of the estate will be fully demonstrated by comparison with well conceived notions of the management of the judicious farmer on his (comparatively) *little* plantation.

The first items we will note in the inventory come under the head of stock—to wit: Horned cattle, sheep, work and pleasure horses. Hogs being generally considered outlaws we will exclude them from the catalogue, although not so certain but that they would be profitable and better behaved, if the morals of certain bipeds were looked after more closely, and their canine associates and accomplices held to a more rigid accountability. But let us begin with the sheep. Of what use are they to the *planter*? The inquiry is forestalled by his telling you in advance, that this is not a *wool* growing region—that he only wants a leg of lamb or a saddle of mutton, occasionally, to help out his table—he cares nothing for the wool—it is cheaper to buy than to make mattresses, for the process of cleaning the wool is more than it is worth, and although his flock numbers some 80 to 100 head, he makes no use of them, save for table economy. Even the *skins* (so valuable for a variety of purposes—especially in the brushing screens of the rice pounding mills) are worthy of no *particular* care, and are generally appropriated to protect some galled beast from the chafings of his harness, or thrown aside to moulder and decay—the food of worms. The barn-yard is the main chance with the *planter*—*little* matters appertain to the *farmer*; so we will pass on, for the present, to the bovine family of the rice planter.

We presume it will not be questioned that if there is any economy at all in keeping a stock of cattle, the true policy would be to have *the best*; not the most costly, but the hardest, most thrifty, &c., for the conditions and purposes required. “Get the best and take the best care of what you have,” is not only the best policy, but true economy in the long run—especially in agriculture. The stinting, starving system will no more bring thrift than will a thin, flimsy, cheap material bring warmth to the body. But let us inspect the stock closely. It is the last week in January, and rather a raw disagreeable day; where shall we find them? Just where they may be seen in all the months of cold,

severe weather, whether wet or dry—in the open corn-field, muzzling, rooting, climbing and trampling over heaps of rice straw, which have been hauled there preparatory to its being spread and listed under as a fertilizer for the next crop. The stock-minder is either basking on the sunny side, sheltered from the wind, or smoking himself by a corn-stalk fire, in the corner of a railed fence. His sheep, cattle, mules, are all rooting together in search of the few scattered grains of rice left in the straw. But what’s the matter with the sheep?—They look as though their ancestors might have been respectable. The black head and legs of the one, the brown ears and broad tail of another, the wide forehead, roman nose, and heavy brisket of a third, the well knotted fleece of a fourth, show that they may claim connection at least with some of royal pedigree. The Southdown, the Tunisian, the Bakewell or Leicester, the Silesian or Merino, must have been in the neighborhood. But how degenerate, what mongrels, and how *rheumatic* they all appear to be. How cramped and crippled they move; what can be the matter? They *are* a mixed flock, kind reader—rather degenerate—but their locomotion is not impeded by a malarious or rheumatic diathesis: only a neuralgic disposition, developed by the enormous and cruel imposition of cockle burs, completely matting together every hair of their fleeces. No wonder the master considers it cheaper to buy mattresses than to clean such wool—no wonder he declares this not a wool growing region. But this gentlemanly rice planter values a fine leg of mutton, and it is presumed has other tastes equally refined, so, without parley, we will inquire after other matters pertaining to the comforts of his inner man. He is regarded a good planter—(query—*is his name enrolled among the members of the State Agricultural Society?*) and lives well—must have a fine dairy, with a plenty of rich cream and fresh butter, to say nothing of fat veal, roast beef, &c., &c. Let us see his stock-bull—what’s his *blood* and *pedigree*? As this is a matter the proprietor really knows nothing about, this patriarch of his bovine family having descended to him by inheritance, we shall have to ask Cuffy.—Now, Cuffy’s experience is considerable; he has been in his honored capacity many, many years—ever since “*old massa’s* time”—but *pedigree* is not in his vocabulary, and he can only vouch for this miserably stunted, scar’d, imbecile looking beast of a bull, being “*a cross from old English blood*,” and he regards him a very worthy descendant. We won’t quarrel with Cuffy for his misplaced confidence, but proceed to his master’s dairy, after a word or two about his oxen.

On every rice plantation the ox is indispensable. He is used for hauling out the rice straw to the upland, carting manure, bringing in the winter's supply of fire-wood, drawing timber from the forests for all plantation repairs, plowing the rice lands, &c., &c. He is absolutely indispensable, and his value, within twenty years, has risen from ten to thirty dollars per head. To have good oxen, therefore, *interest* should prompt the planter to a careful selection of his stock, and the best provision for their preservation. But what are the *facts*? I say it with shame, that the rice planter ignores everything which does not go directly to the increase of his stacks in the barn-yard. Rice is *the thing*—a good crop will pay for all et-eteras and contingencies—therefore, standing orders are given most explicitly, and impressed upon overseer and driver, that "*the rice crop must not suffer under any circumstances.*"—Not surprising is it, therefore, to find everything neglected save the "swamp seed." That "Dairy," to which I invited your attention, good reader, is altogether ideal with the *planter*—it belongs exclusively, I might say, to the *farmer*. Fresh butter comes from Goshen—and as for veal and fine fat beef, they may be purchased occasionally—but not one planter in the hundred enjoys these comforts from his own stock. Indeed, a beef is never taken unless perchance there is a worn-out ox, or some *very* dry cow, under the sentence of age, which can be fixed up for a Christmas treat. Mr. Editor, I have drawn but half the picture. In truth, I can say, that I have known, on some of the wealthiest rice estates, with over one hundred head of cattle, and a good flock of sheep, their gentlemanly proprietors, not only dependent for every pound of fresh meats on their tables, but frequently with scarcely milk enough for their tea and coffee. Cream and fresh butter would indeed be luxuries, but the *planter's* economy excludes them from the list as extravagancies, viz: costing more time and trouble than they are worth. A near neighbor assured me that a year or two ago, his flock of sheep numbered 60 head—that he had not eaten a lamb in seven years—that three-fourths of his lambs died young—and that in a few years his flock had diminished to less than thirty head. I ascertained that he had not changed his ram in eleven years, and that the cockle bur had control of every foot of his lands under cultivation, and was a positive nuisance to everything that pastured in his fields.

Now, going back to my proposition, that true economy consisted not only in getting *the best*, but in taking the best care of what one has, we are naturally led to inquire into the ordinary *plantation*

management and provision for stock. Where provision crops are a part of the general economy, the making of manure has been, from time immemorial, an item in the work. Let us explain the process: An ordinary rail fence encloses the selected spot, which (for a quarter of a century in some instances) is well known as the cow-pen. Occasionally it is chosen on a hill-side or slope, to *prevent its becoming boggy*, or again *in a hollow*, to promote the decomposition of such materials as are used for litter, and which require moisture to be retained to complete the process. The choice depends upon the notion of the overseer, generally; not at all upon the well conceived opinions of the *planter*, or upon any special theory that his presumed knowledge of agricultural chemistry might suggest. In the centre of the cow-pen a *rack* is formed of rails, for feeding—and this generally completes the arrangement, but occasionally a scaffolding is also added, intended as a shelter, to be covered with straw. As soon as the threshing of the rice crop is commenced this pen is well littered, and the cattle gathered there at night. In good dry weather the plan works well; as the first litter is well trampled it is replenished, and so from time to time layers of straw become well incorporated with the droppings from the stock, and this process goes on until the straw is exhausted.—Now mark you, Mr. Editor, but a small portion of the crop of straw is used in this way. A large portion of the provision land is dressed with long manure, that is, the undecomposed straw spread and listed under—and it is considered very desirable to get this done, if possible, in December. It results, therefore, that from this time forward to the month of March, when well rotted manures are usually hauled out, the supply of straw is getting scarce, and if the weather is a little pinching, we are reminded that it must be reserved solely for feeding. The consequence is, that in January and February all the pens are usually very boggy, and after a heavy rain we have seen them in a condition positively revolting. Is there any wonder that cattle penned night after night in liquid manure knee deep, without a single dry spot to rest their weary carcasses, should become impoverished, dwindle and die at the end of the season? Any wonder that cows and young calves and lambs, all huddled together in such a pen, should prove unthrifty? And yet such is the treatment on a large proportion of the rice estates. Exceptions there are, it is true, but they will be found chiefly among the readers of agricultural journals—among practical planters—not among the wealthy absentees or aristocratic lords, who leave all details to the overseer, with a

single eye to the long ricks of their barn-yards, even though they may have to purchase all their oxen, every horse or mule used on their premises, and not unfrequently six to eight months supply of corn for their people. Now how does this contrast with the management of the judicious farmer. He, too, keeps his stock, cattle, sheep, horses, mules, &c., but he has learned the economy of taking good care of them. His sheepfold opens upon a lot which is planted in rye, and kept in readiness for his lambs. The sheep are penned under a shed or housed, and during very severe weather are nourished from the vegetable garden, by a few turnips, carrots and cabbage leaves, grown expressly for the emergency.—The enclosure is swept or raked every day or two, and the litter piled up under shelter, thus protecting it against leaching rains, and preserving it from waste for future use. This plan is pursued systematically the year through. With a steady aim at the improvement of his crops; not only *making* but *preserving* manure, is a part of the farming system—nothing is wasted. Neat cultivation and rotation of crops have rendered his lots more productive.—Acres are cleared and added to his premises—from a small he soon attains the position of a large farmer—but the same methodical care of his stock and systematic treatment of his grounds mark his progress. He has his dairy, supplies his family with all the milk and butter needed, spares a little for market, now and then has a fine veal or mutton for sale, raises a fine yoke of oxen or a well-bred colt, pays for his groceries by the sale of surplus comforts, lives well all the time, happy and contented in the *personal* supervision of his estate, thrice happy in the healthful industry of an honest farmer, the envy, I might say, of many a proud planter.

I could go on, Mr. Editor, drawing comparisons between the two, proving conclusively, where proof will be received, that there is a slovenly wasteful system pursued on many rice estates—a false economy system—perfectly astounding and almost incredible, in these days of agricultural advancement. One of my neighbors, who really is a skillful rice planter, and keeps his provision lands under a neat and beautiful cultivation, has frequently expressed his surprise and disappointment at the results of his upland cropping. With double the quantity of manure applied over his corn fields he never realizes more than half the product some of his neighbors claim on lands certainly of no better quality. With scores of wagon loads of what he conceived to be the very best manures, he seldom averages more than 18 to 20 bushels of corn to the acre. I enquired into his process of making manure, and found

it explained the whole difficulty. His cow-pen is located on a slope, with a basin at the bottom made to form a small pond, by a check bank thrown across, which, from its proximity to lower tide lands, is generally flowed in ordinary seasons. His entire stock of cattle and sheep are penned in this enclosure, made by a post and rail fence, with no shelter or arrangement for the preservation of his stock than a long *rack*, running from east to west, which serves for feeding purposes, and protects against the north winds. This pen has been so located, to my knowledge, for more than twenty years. It is littered regularly with rice straw and trash, raked up in the forests, which, to promote their thorough decomposition, are generally deposited at the foot of the enclosure in the water. Here they remain the entire season through, from March to March, receiving the washings from the pen after every shower, exposed to the burning heat of the entire summer season, constantly undergoing the process of leaching and evaporation, which every reflecting mind will readily understand to be most exhaustive and pernicious. No wonder his labor was fruitless. I persuaded him to erect suitable sheds, with lofty spacious roofs, for housing his forage, to keep his stock sheltered, to have the manure collected and banked with earth, or drawn under the sheds beyond the influence of heavy rains, and to change his entire system, not only for the benefit of his crops, but for the comfort and well-being of his stock. He has done so, and I think it safe to predict that in five years, with his continued good management in other respects, his reward will be satisfactory.

My object, Mr. Editor, is to point our overseers as well as *planters* to the necessity of *plantation reform*, if they expect to keep pace with the times. Where an agricultural investment in tide lands is so little remunerative, as at present prices of lands and negroes, it is of the first importance that provision crops should not be overlooked. We must make by saving. Every bushel of corn made on the plantation is worth a bushel of rice. We can raise our own horses, mules, oxen and sheep, and find a profit in so doing, if we will only make our provisions. Our stock will contribute largely to this end, if they are properly housed and judiciously treated. The rice planter is wide awake as to the economy of taking the best care of his people in housing, clothing, feeding, &c., but he must abandon the old conceived notions of *plantation* economy as to the care of his stock, and the making of provisions, and the comforts of a plantation residence, or he won't pass muster as an agriculturist of 1860.

A PLANTER AND FARMER.

BAREFOOTED NOTES ON SOUTHERN AGRICULTURE.

BY AN OLD GRUMBLER.

NO VII.

A Chapter on the Grasses.—"Make Hay while the Sun shines."—"All Flesh is Grass."—Great value of Perennial Grasses, &c.

If the reader has followed us in these rambling notes, he will have perceived that we are a believer in grass culture, everywhere. A country which does not afford abundant herbage crops, can never be permanently prosperous. The cheapest and most nutritious food for domestic animals, is the key to agricultural thrift, and, to obtain this, we should knock old systems in the head, and, if possible, organize our operations upon a basis which will secure the desired end. In giving a short botanical description of many of the cultivated grasses which flourish from the mountains to tide-water, and westward on the prairies, together with some not introduced, we may excite enquiry sufficient to cause them to be tried thoroughly, and their proper cultivation may add benefits to large numbers who are destitute of forage productions.

THE CLOVERS.—(*Pratense*.)

1. *Trifolium pratense*.—Common red Clover—The clay soils, and in the sheltered valleys of all the hill country of the South, and the limestone prairies and drained alluvial lands of the entire west, by the aid of calcareous matter or gypsum, will produce fine red clover. For pasturage and the resuscitation of exhausted lands, this is a valuable grass. It furnishes an early bite for sows and pigs, lambs, and suckling mares, and, in mid-summer, will yield fair returns in the best kind of hay. Its tap-roots penetrating to a great depth, bring up the buried wealth of the underlying soil, and thus speedily ameliorate the condition of exhausted lands. When grazed with care, by sheep and swine, their droppings more than compensate for the food they glean. Red clover is generally considered a biennial, but Darlington, and other minute observers, assert that this plant will live more than two years. We have seen isolated plants in protected situations, which were four or five years in a flourishing condition, and at last assumed a shrubby habit, which is never observed in fields where it is mown or cropped by animals. Hence, in the South, if the after-math is allowed to ripen its seed, the young plants rapidly cover the ground in February and March succeeding, and from this cause, with proper manuring, and a good harrowing annually, clover fields might be made peren-

nial. Red Clover furnishes a practical crop for turning in; and if this is done at the time when the earliest seed is ripe, and the land-manured and sowed in grain, it requires but a small quantity of new seed to stock the land again. We usually sow sixteen pounds of seed per acre, upon land smoothly harrowed, and follow with a clod-crusher, which compresses the soil, and gives a good stand. The cost of seed for one acre, is usually about two dollars.

2. *Trifolium Repens*.—White Dutch Clover.—A small, creeping, perennial variety, of great value in permanent pastures—remarkable for its constant show of white flowers, which are the favorite resorts of the honey-bee. This variety should be mingled with all grasses, sown on damp soils, for pasturage; and, when intermixed with Kentucky Blue Grass and Bermuda Grass, forms a most enduring turf. There are many such pastures in the South which, if cleared of the frequently overshadowing shade trees, would yield a handsome return to the grazier. Such pastures are fine for the heavier breeds of sheep and neat cattle. The white clover is now naturalized everywhere.

3. *Trifolium Reflexum*.—Buffalo Clover.—This variety has ascending pubescent stems, with large heads of red and white flowers. Common in the West.

4. *Trifolium Stoloniferum*.—Runing Buffalo Clover. Nearly related to the above; same *habitat*, and but little known of their agricultural value, if they have any.

5. *Trifolium Agrarium*.—Yellow or hop Clover. Usually erect, with leaflets all from the same point, with yellow flowers, which are reflexed, and become chestnut brown—of foreign origin, but naturalized on road-sides and in old fields.

6. *Trifolium Procumbens*.—Low hop clover.—Usually procumbent—the terminal leaflet petiolulate. These two last are worthless species, and are gradually extending.

LUCERNE OR MEDICK.

1. *Medicago Sativa*.—Cultivated Medicago—Lucerne Trefoil of the Spanish, also Alfalfa. A deep-rooted perennial plant, sending up numerous tall, clover-like shoots. It succeeds well in the lower country of the South, and on all dry calcareous soils. It has a tap-root which penetrates to a great depth; indeed, we have traced it on gravelly clay soils to the depth of five feet. It is our belief that on sandy soils it will descend much lower. In Europe, a field well stocked with lucerne, may be mowed or pastured eight or ten years. It is in great repute as a soiling grass, and springs up rap-

idly after the scythe. It requires at least one year to bring it to maturity, and it should not be grazed or mowed the first season. A proper plan is, to graze off this grass early the second spring, and allow it to reinvigorate the roots by a full growth, which may be mown as soon as the seeds are matured. At this period of its growth, the hay is harsh and woody, but is exceedingly relished by sheep in winter. In Chili and northern Mexico, it is the great forage crop, and furnishes repeated cuttings in a season. It has never been cultivated to the extent it deserved to be, as our planters are too impatient to give it the attention it requires until it is established. We should value it above this trouble, when we reflect that one seeding will endure for ten years. It requires deep, rich soil, and flourishes alike on clays and sand. Sixteen pounds per acre is a fair seeding, the cost of which is four dollars.

2. *Hedysarum Onobrychis*, or *Onobrychis Sativa*—Saint foir—Is much cultivated for fodder on the calcareous soils of Europe, and would flourish wherever Lucerne does. It was once introduced by the late Gov. Crawford, of Georgia, but with what success I am unable to state.

3. *Medicago Lupulina*—Black Medick, Nonsuch.—A species extensively introduced into this country from the pastures of England, the seeds having been brought over in the wool of sheep. It has become quite a common biennial. It is not a true clover, though, when in flower it may be mistaken for a yellow clover. It is relished by sheep.

4. *Medicago Maculata*—Spotted Mediek.—This species has been extensively disseminated in the South as "Yellow Clover." It is an annual of vigorous growth, easily distinguished by purple spots on its broad succulent leaves, and the spiral coiled arrangement of its seed pods. It seeds the land annually, only requiring to be plowed in in June or July. It furnishes a large supply of green food at mid-winter in warm localities, but we do not prize it very highly, beyond being good winter grazing for ewes and lambs, and sows and pigs, in addition to other generous food.

5. *Medicago Falcata*—Swiss Lucerne—Yellow Lucerne.—A coarser and hardier variety than either of the species mentioned above, producing good yields on sandy soils in Switzerland—not yet introduced.

MELILOT.

1. *Melilotus Alba*.—Tree Clover—Bokhara Clover.—This is a very strong growing biennial, for which much has been claimed as a soiling plant. It might be a valuable addition to our cultivated

grasses, but it is perhaps not as well suited to our wants as Red Clover and Lucerne.

2. *Melilotus Officinalis*—A variety with yellow flowers, is found in waste places.

3. *Trigonella cosrulea*, formerly *Melilotus Coccrulea*, is an allied species, of strong and enduring odor, which is employed in Switzerland to give the peculiar flavor to *Schalzeiger* (or, as it is commonly called, "Sap Sago" Cheese).

For the Farmer and Planter.

FENCES.

"Fence, *Fendo*, (Latin) an enclosure."—Walker.

"Are you skillful of fence?"—Shakspeare.

MR. EDITOR:—In traveling about over the country, I have become satisfied in my own mind, that there is no department of plantation economy in which the people are more deplorably deficient than fencing. There could not be found, I take it, any two juries in the State who could agree upon what is a lawful fence, as the law now stands. A fence, is a fence, is about as good a definition as you can get; but are not nearly all our fences *offences* against good economy, and breaches of the peace too often? Does anything about a man's plantation give you a better idea of his system and his economy than his fence?

Who was it said that a curved line was the line of beauty? He never saw a curved line carried through a plantation by a worm fence, or he would have made that an exception. If there be any line of ugliness, this is surely pretty near it.

But we must have fences. People in a free country will never agree to fence up the stock and turn out the crop—it is no use to talk about it—so the only question is, how we can better our condition? The gate law was a step in the right direction; it will enable us to save a good many rails, to enclose, for special purposes, many good pastures for one's own stock, to prevent land turned out from being cut to pieces by roads, and to allow old-field pines and broomsedge to grow up and begin the work of restoration. The only persons who object to this law, I believe, are those who have no land to fence up, and those who hate gates, but luxuriate in drawbars.

But to come back to my subject—how many men ever think of economy in fencing? Look about you and you will see your neighbor building his fence upon the same old worm, year after year, sprouting, briaring and vining it out, over and over again, because he don't want to have the trouble of laying a new worm, or changing his line. How many good hills of corn would that old fence now bring him, and how much longer would his fence last?

But this is not all—if he has rock plenty about him, would not one under every low corner pitch it up, make it look better, and last longer? Again—how many will stretch a fence almost straight out, because rails are scarce? and yet you will see their lines of fences running zig-zag here, rounding hills there, and dodging gullies yonder, perfectly unmindful as it were, that the shortest distance between two points is a right line. I have seen some men who would take as many rails to fence twenty acres as another would require for thirty.

Timber is getting too scarce to be cutting up the plantation into little squares and diamonds. The main object should be to divide the plantation into as few fields as possible, with an eye to the benefit of rest and rotation—to put the fences on the best ground you can, and run the lines as straight as you can.

“That is all very plain English—everybody knows that,” says my neighbor, Dobbins. True enough, Dobbins, but “everybody,” I tell you, is as hard headed an old fellow as we have amongst us—the last man to change his fence in the neighborhood. But I’ll give him a talk anyhow—can’t do any harm, if it don’t do him any good.

Now, sir, can you tell me why, in building fences, you should always carry the big end of the rail before you, or whether the bark side should be down or up, or whether a rail split out of dead pine will outlast one split out of living pine, or whether a rail split in February or August will last longer than one got at any other season of the year? Do you believe that a fence laid in the light of the moon will last longer than one laid in the dark ages?—no dark of the moon. Do you believe the crook of the worm should be 4, 4½, or five feet, or that the rails should have a foot or six inch lap? Do you believe in resetting or righting up fences every three or four years, or in letting them stand just as long as they will stand alone? Do you believe in clearing up the fence corners and throwing the briars and weeds over into the big road, or piling them up to rot inside? or do you believe with Bill Easy, that “its best to let ’em alone, for they’ll keep the fence from blowing down, and the stock from breaking through on ones truck”? Do you believe in gates being a great annoyance, and in drawbars being a great convenience, and an ingenious contrivance to teach hogs and horses gymnastics? Did you ever know a new overseer to come on a plantation who didn’t find fault with the fences, and throw ’em all down and build them up the first thing? and did he do it because he could do nothing else in the same length of time that would

make so great a show? or, because he could do it better? Did you ever know a man to acknowledge that he had worse fences than his neighbors?—Did you ever know two men to join fences who didn’t fall out? Did you ever know a man who put his fence on the line that didn’t go a “leetle over it?” Did you ever sit a week upon a petit jury without a fence case coming before you?

These questions, Mr. Editor, I merely beg leave to put, as suggestive of the importance of directing attention to the necessity of reform in this branch of business. We must every one of us see the necessity of a wise economy. Timber is scarce, and hedging a matter for which our people seem to have very little taste, and in fact, it would be found impracticable until we learn to economise space, and systematize, so that we can lay out fields permanently for rotation, pasture, rest, &c. Hedging never can be successful among a people always selling out, moving away or buying up, and incorporating other farms with their old ones. Hedges and primogeniture, or something near akin to it, go together. A man who feels himself a fixture, and expects Tom or George to take his place and bring up a family in the old homeslead, may set about hedging—nobody else will, but as a fancy experiment.

R. S. T. U.

“APPLES OF GOLD IN PICTURES OF SILVER.”

We clip the following morceaus from an address, delivered by A. P. ALDRICH, Esq., before the South Carolina Institute, at its late exhibition, and only regret that we have not space to spread the whole address before our readers. It is full of striking truths, beautifully expressed—and such truths, too, as it is high time the Southern planter should begin to think seriously upon. Our “manifest destiny,” it is becoming but too manifest, will not be of our own choice. We will be driven to take one of two positions—an inferior or superior. The “irrepressible conflict” will settle the question of *equality*—in truth it has already settled it.

Is it not time to be thinking of laying the groundwork of our own independence, by pursuing the course marked out by Mr. ALDRICH, by beginning at *home* with reform and retrenchment, by making our own mechanics, our own manufactures, by draining our swamps, improving our old fields, raising our own horses, cattle and hogs, growing our own wheat, corn, hay and potatoes, and a hundred other things, which make up the prosperity of the land of “Yankee notions?” There is no use in being any longer “mealy mouthed” about this matter. It is not a political question—it is one of life and death—equality or degradation—and must be

met. With Mr. Randolph's "philosopher's stone" in our hand, we may bid defiance to the world.—But it is no use praying to Hercules—we must put our shoulder to the wheel. The politicians are not to be trusted.

Why, just look here at home—South Carolina—one of the oldest States of the Confederacy—hundreds of thousands of acres of the best land in the State are now lying in the primeval swamps and forests, waiting to be reclaimed. And yet we talk of new lands, new conquests, when we have not had the energy and the enterprise to conquer that which the good God, in his kindness, has placed within our grasp. Why this feeling of unrest? Why this anxiety to rush forward into new fields of excitement and conquest? I much fear there is a fatal error in the education of our people. We do not bring up our sons to toil and labor persistently.—Every man of moderate fortune rears his children as if each one was to be worth all of his father's estate. A fatal error. When the estate comes to be divided, that which sustained the head of the family in comfort and respectability, is a mere pittance among the sons. It is soon exhausted; and then, too proud to work, too ignorant to do any thing, ashamed to beg, too honorable to steal, they are ready for any enterprise which may lead to fortune or to death. I tell you this is a solemn truth—mechanics, tradesmen, overseers—why many of our young men turn up their noses at these and all other useful employments. It is beneath the dignity of their ancient families to engage in such occupations, forgetting that it is the man that dignifies the occupation, and not the occupation that dignifies the man. And because they cannot live upon the reputation of the father, and ancestors who are buried in the dust, they must either starve, or become fillibusters, or adventurers in any enterprise which promises a speedy fortune or a speedy death. Our people are not deficient in inventive faculty and mechanic skill. Abundant evidence of this is afforded by this Institute, and, but for this false pride, which fears to harden and soil the hand, both would be rapidly developed. I am glad to say, that as these pursuits have been made honorable, by the steady progress and good sense of the men who have engaged in them, this false pride is wearing out. But there is a great deal too much of it yet remaining. I do not desire you to understand me as deprecating that ancestral pride which has made our people high-minded and honorable men. I know of no higher and nobler feeling, and I hope the day is far, very far distant, when our young men will cease to venerate the names of their ancestors, and be proud of their deeds and virtues. But I do deprecate and denounce that false and sickly pride which makes a man ashamed of physical labor. How honorable is it for the educated workman, with his up turned brow and hard hand, to say, like them, I too, have conquered my independence? How mean and contemptible is it for the descendant of a noble sire to say I am ashamed to work, because my father was a great man? Be ye sure when it comes to that, the blood has run out. Work—labor." "Six days shalt thou labor, is the command of God; and he

who would perpetuate the glorious name of his ancestor, must work. He who would keep up the family influence, must work. All men are not gifted alike, but every man is fitted to do something, and he who neglects to do the something which nature has fitted him to perform, and is satisfied to live and lounge on his father's reputation, will be sure to wear that reputation out. Labor is honorable, dignified, whether of the brain or of the hand, and the purer the blood which runs in the veins of the laborer, the more dignified and honorable does he become. I am not mincing matters to-night. I stand here, and speak to my countrymen, on the soil where I was born, and I am telling you the truth. I do it respectfully, affectionately, with the earnest desire that it may do good. It is well, occasionally, to let a people know the causes of their decay. I do not talk of the mechanic as the bone and sinew, and all that sort of clap trap, which they despise as much as I do; but I am talking to sensible men and to their children, in the earnest hope that it may make them think and work.

What then is the destiny of the South? I have said before, she holds her fate in her own hands.—It is for us to say, if we will achieve that destiny, or sink down into worse than colonial dependence. When I consider her 850,000 square miles of territory—her 4,000,000 of regulated laborers—*slaves*—her 7,000,000 of white population—her soil and climate, unsurpassed by any on the face of the globe—her mighty rivers draining the Atlantic slope and connecting the Gulf with the Lakes—her staple productions which command the commerce of the world, and without which manufactures would stop, shipping would rot, and millions would starve—what a glorious destiny may she not achieve? And what hinders? Simply the absence of united counsel and direct purpose. What may not such a people, with such resources, accomplish? Brave, intelligent, impulsive—an imperial domain, producing the staple crop of the world; a regulated and contented laboring class, differing in color, inferior in brain, and satisfied with their condition—cared for in youth and in age, comfortably clad and well fed in the years of famine as in the years of plenty—carefully tended and nursed in sickness. With such a country, with such a population, with such productions, with such a laboring class, it will take the poet's pen and imagination to describe the magnificent destiny which awaits the imperial South.—Notwithstanding the exactions of a partial government—notwithstanding the millions upon millions of useless expenditure, which has been drawn from this section, in the shape of tariffs and other taxation—notwithstanding commercial disaster in all parts of the world, her people have maintained their prosperity, and her individual wealth is superior to that of the North. This shows a vitality, a power of endurance, which will make us, under a uniform, stable system of government, to advance in power, wealth and general prosperity with more rapid strides than has yet been vouchsafed to any other people. We have but to will it, but to unite to perform it, and the thing is done.

Present prosperity too often makes us lose sight of future danger. The warnings of the faithful sen-

tinell fall unheeded on our ears. We hear the mutterings of the coming storm, but hug ourselves with the delusion that the bright sunshine in which we now bask will dissipate the dark and distant clouds, and keep the heavens always bright. We delude ourselves with false cries, such as "*Cotton is King*," and sink into apathy. I much fear me this is our condition. We are too prosperous. Cotton is King, we cry, and even those who try to make it a slave, join in the loud acclaim. Is this true? Is Cotton King? It plays a conspicuous part in the regulation of exchange; it contributes largely to commerce; it is the support of manufactures; it has the power of Kingship, but not the rule. Twenty years ago Cotton was worth as much as it is now. Negroes, mules, horses, in fact everything necessary to the production of Cotton, were worth at least fifty per cent less. How is it now? Cotton is worth no more, but the negro, who was then worth three or four hundred, is worth eight hundred or a thousand dollars now; the mule, which was then worth seventy-five or a hundred dollars, is worth one hundred and fifty or two hundred dollars now; and so of the horse—and the land—and the provisions. Everything has almost doubled in value, except Cotton.

The expense, and style of living, and dress, have increased in like proportion, the expense of education—in fact, I know not a single thing in the domestic economy which has not almost doubled in value, while cotton has stood stock still. Do you call that a King? The manufacturer, who can't run a spindle without cotton, whose machinery would rust, whose operatives would starve, control the price of cotton. The exchange broker, who can hardly negotiate his bills without cotton, the negro raiser, the mule, horse and hog raiser, the shoe-maker, all these would almost find their occupation gone without cotton. They are the subjects of cotton. And yet this King, so potent, cannot raise the revenue because his dependents say no. Yet, if the support contributed by the King was withheld but for a single year, they would starve and die. This, then, is the remedy: stop the supply. But how to do it is the grand question. There is hardly a cotton planter who can afford to hold a crop, and unless this can be done, it is simply absurd to talk about regulating the price. Many expedients have been suggested. Some say a bank—a very dangerous thing. Some say association—an impossible thing to attain. And thus one expedient after another is suggested and rejected. I do not pretend to advise any plan which will meet the want; in fact, I am fully convinced that no general artificial plan will be successful. The evil under which we people of the South labor, we cotton planters, is a want of economy; and no plan, no association will correct this. Every man must commence in his own family.

I have heard of an anecdote of Mr. Randolph, who once said, in his emphatic way, "Mr. Speaker, I have found the Philosopher's Stone," and, pausing while his long fingers shook emphatically, he exclaimed in his clear shrill voice, "*Pay as you go!*" This is our difficulty; we do not pay as we go.—Very few planters can afford to hold their crops; and, until this can be done, they will ever be at the mercy of the buyer and the manufacturer. There

is but one way to do it—pay out of debt and be independent. But, so long as we go in debt for lands, negroes, horses, mules, relying upon the coming crop to pay, the thing is impossible. The inevitable result will be, that we must ever be dependent upon those who cannot live without us. Cotton can never be King until it has the power to contract the supplies. And, so long as the King is dependent upon his retainers for support, he is no true sovereign. My opinion is, that this union of action can be accomplished only in one way—that is, to convince the individual judgment of each cotton planter that it is his best interest and his duty to be independent of the cotton buyer. Just here, however, is the difficulty. I know a few cotton planters who always have money to lend out or to buy property with; they found the Philosopher's Stone when they were young, and made "*pay as you go*" their rule of life; but all the rest are either borrowing money from their factors or their neighbors.

The consequence is, they must either sell or be sued, and being forced to sell, are powerless as to price; they must take what they can get. No bank, no association, no artificial means, can cure the evil. A planter had better owe his factor than a bank. The factor is his friend—has a soul, and sympathises with him. The bank is a mere machine, to grind him to powder in the day of adversity. Not that those who control the bank desire to injure him, but they can't help it; at such times the bank must either call in its debts or stop. The only remedy then, is to begin right at home—use economy, pay as we go, be independent, and we may sell or hold as we please. Then the King may assert his kingship, and not till then. Then the price will be within the control of the maker, because the demand has, within the last few years, been greater than the supply. The cotton planter, instead of being dependent upon the manufacturer, will make the manufacturer dependent upon him. This will be no tyranny. This King Cotton has the name of king, but no regal power. It regulates nothing now. It feels every financial shock sooner than any other article of commerce. True, if a blight and a blast was to pass over the cotton region, and the supply was stopped, even for a year, famine, commercial disaster, wide spread ruin would follow—and this alone ought to teach the cotton planter his power. Factories must stop, and operatives must starve, unless the cotton to run the machinery and feed the operatives is bought at a remunerating price. Nor would there be any danger in this that a tyranny will be practiced, because the cotton planter has learned already that unless the cotton fabric be the cheapest to clothe the world, some other production will become the staple. This, then, is our great means of independence.

VELOCITY OF SOUND.—Sir Jno. Herschel calculates that sound, in dry air, and at the freezing temperature, travels at the rate of 1000 feet, 350 yards, per second of time; that when the thermometer is at 62° Fahrenheit, sound runs over 9000 feet in eight seconds, 12½ British standard miles in a minute, or 765 miles in an hour, which is about three-fourths of the diurnal velocity of the earth's equator.

MECHANICAL TREATMENT OF SOILS.

BY PROF. CAMPBELL.

In reducing soils to their proper mechanical condition, three points must be kept distinctly in view: *They must be sufficiently pulverized to allow the roots of plants to spread and grow freely. They must permit a free circulation of air. The water which falls upon them must be readily absorbed, and have, at the same time, such free circulation, that any surplus moisture will pass off, without becoming stagnant, and without washing away the surface.*

To accomplish these objects, several methods may be pursued, one or all of which may be employed, as the condition of the land, or other circumstances, seem to require. Those means best adapted to the farming operations of our own country will be described.

Mixing soils may be resorted to, where those of widely-different classes are sufficiently near each other to admit of transportation. For example, the best and most durable remedy for a stiff clay is the application of sand; while, on the other hand, the best remedy for a very loose, sandy soil, is the application of clay. If a farmer has both kinds of soil on contiguous portions of his land, he may often find it profitable to haul sand upon his stiff clays, and, for each load of sand, bring back a load of clay to be applied to the loose, sandy surface.—This method is extensively and most successfully employed in Holland. Clay soils may also be greatly benefited by being mixed with peaty soils, or, still better, by applying pure peat. So, those of peaty character, being often too porous, may be improved with clay or clay and sand together.

Plowing is the most common, and most economical means of giving a soil its proper mechanical condition. All past experience proves that, without the plow, or its equivalent, successful agriculture is impossible; while the history of the world shows that nations have generally been prosperous (others things being equal,) just in proportion to the skillful use they have made of this most important of all instruments. If two men, with equal force and capital, are placed upon contiguous farms of equal size and fertility, they will prosper very much as they plow. The one who scratches the surface to the depth of only three or four inches, will soon find his farm and himself growing poor; while the one who is not satisfied with breaking and cultivating less than twelve inches in depth of his land, will, most probably, soon find it necessary to "pull down his barns and build greater."

Repeated plowing during the growth of many crops, not only cleans the land, by destroying weeds and grass, but also serves another most important purpose not to be overlooked, even if the land is already clean: that is, it keeps the soil in a proper condition for the growing roots, and the free circulation of air and moisture. These advantages are seen every season, where corn, tobacco, and cotton crops are properly cultivated.

Deep plowing is absolutely necessary on almost every farm, in order to get the highest profit from the soil. The reasons for this may be rendered

plain enough for any mind, in a few sentences.—The space in depth, to which the roots of crops penetrate, and from which they derive nourishment, is limited chiefly by the extent to which the plow has run. Beneath that point, especially in clay soils, the roots make but little progress. The unbroken subsoil, when composed of clay, is not easily penetrated by rain. Hence, after the plowed mass has become saturated, the surplus water escapes from the surface, frequently carrying off valuable portions of the fertility, and leaving unsightly gullies behind it. Deep plowing tends to *prevent washing*. A deep-broken soil is a sort of *store-house for moisture*, holding a portion always in reserve for periods of drouth. When the sun, the air, and the growing crop have taken up the surface moisture, some of the roots are still deep down in the earth, where the supply is abundant. Then, again, this moisture from below constantly rises toward the top during drouth, by the force of capillary attraction, thus keeping up the supply to those roots nearer the surface. Besides this, it brings with it some elements of fertility in solution, and as the evaporation at the surface goes on, these are left to aid in enriching the surface-soil. Drouth may thus improve land which has been properly plowed.

Sub-soiling.—The sub-soil plow is designed to follow the ordinary or surface-plow, in the furrow left by the latter. By this means the bottom of the furrow is broken and pulverized, without being turned up. The surface plow then throws its next furrow upon this loosened portion of the sub-soil, and, again, the subsoil plow following, breaks another portion beneath; and so the process is continued till the whole field has its surface stirred to a depth which cannot ordinarily be reached by any one plow operating alone.

One of the simplest and best sub-soil plows is constructed upon the following plan: It has a strong sharp coulter, extending about fifteen inches below the beam, having a share, or wing, on one side of it about two-thirds as wide as the share of the surface plow. The hind part of this share-wing should be elevated about three inches, so as simply to raise the clay, and let it fall back in a pulverized condition behind the coulter. The bar forming the point should extend backward from the heel of the coulter four or five inches, to give steadiness to the plow and enable the plowman to regulate its depth.

If the plow is to be worked by two horses, which it generally requires in a stiff soil, one of the horses should walk in the furrow, and the coulter must then run with its share directly behind him. In order to throw the coulter thus more nearly in the track of the furrow-horse, than of the one on the unbroken land, the beam may be crooked. It can be made by any ordinary plow-maker, at a cost of three or four dollars. A straight beam will do, if the point of the coulter is inclined towards the furrow. But the handles are then thrown too far out of the line of draught.

Benefits.—The benefits of sub-soiling are similar to those of deep plowing, already given. It opens up a new source of fertility, for the sub-soil always contains many of the substances demanded by the growing crop. It gives a deeper space for the circulation and retention of air and moisture, and thus

serves as an antidote to drouth. Again, if the soil is level, and of such a character as to retain too much of the water which falls on it, and thus become swampy, the broken sub-soil lets it pass off more freely from the surface-soil, and the sub-soiling thus becomes akin to draining. But, on horizontal lands, in case there is still a stratum of impervious clay beneath the broken sub-soil, there will be no outlet for the surplus water, which will then be confined in the level field, as in a shallow basin. In such a case, draining must precede sub-soil plowing, else the latter will be of no avail. If land is level, then sub-soiling will be of little service to it, unless it be either natural or artificially drained.

But one peculiar advantage which sub-soiling has over ordinary deep plowing is, that it gives a deeply pulverized mass, without exposing upon the surface that portion which is often unfit for such a purpose. If, for example, the sub-soil is a tenacious clay, which would readily form a hard crust on the surface, it had best not be turned up; or if it is of lighter color than the surface soil, it would not absorb heat so freely, and would hence be, in that respect, injurious.

Sub-soiling need not be resorted to in all cases. In very deep loamy and sandy soils, it is sometimes better to run two ordinary plows, the one after the other, in the same furrow—the second being set deeper than the first. In this way the surface and sub-soils are inverted, to some extent, or, at least, completely mingled; and where the surface has been exhausted by long continued tillage, its place is thus supplied by fresh soil. This is called "*trench plowing*."

The sub-soil plow serves a valuable purpose, when run through meadows and grass lands which have become too compact. The soil beneath the sod is loosened to a great depth, without the sod being seriously broken. This plow may also be used for loosening the earth beneath the roots of corn, or cotton, before the plant has attained any considerable size.

The *Harrow and Cultivator* are important auxiliaries to the plow, in reducing the soil to a more completely pulverized condition; in mixing fertilizers more entirely with it in giving a smooth surface; and in covering the seeds of some crops. The cultivator is especially useful in stirring the soil between corn rows, when the roots have become too much extended to allow very deep tillage; and in covering wheat, when sown broadcast.

The *Roller* is an important instrument on many soils. Where clods are too hard for the harrow to reduce, the roller affords the best means of crushing them. When very light soils are cultivated in wheat or grass, the roller is frequently wanted to render the surface sufficiently compact.

CURE FOR HEAVES IN HORSES.—Common tar, mixed with a tablespoonful of ginger, made into a ball with a little shorts. Given daily. The very worst cases have been cured by this simple remedy, and the cure is of a permanent character.—P., *Richmond Hill, C. W.*

HOG BREEDING.

It is very rare that one meets with an article as much to the point as the following, which we take from the *Genesee Farmer*. We heartily endorse it, and advise our readers to read it, and try to follow its suggestions.—Ed.

We intend not to say how a few hogs can be raised to an advantage, but how a man may raise them as a business, with the least labor and expense, and leave the land in the best condition.—All farming, in my opinion, ought to be conducted with a reference to the continual improvement of the soil. Present gain, by a deterioration of the soil, will ultimately prove to be a loss.

To succeed in raising hogs, as in other stock, we should have a good breed. The Berkshire crossed with our common hogs, constitutes a very good stock. The Berkshire communicates its fattening properties and early maturity—two very desirable qualities—and the common stock gives size. A cross of the Berkshire on the Irish grazier makes a very good stock.

Say we have a good stock to begin with; a stock that matures early and fattens well. The pigs should come from the middle of March to May.—There is great advantage in pigs coming at this time; as we can graze them through two summers, and have them to keep only through one winter.—They come to be of fine size by the second fall or winter. Hogs may be pushed into market younger, but at more expense in grain, and they will be smaller at fattening time, which is a great disadvantage.

The greatest profit in hogs is in grazing them, and turning them upon grain fields, where they can gather for themselves; and having them large and in good condition at fattening time. The sows and pigs should be kept in good growing condition, by feeding them on Indian corn, or corn-meal made into slop. As soon as the clover begins to blossom, or a little before, turn them upon it. Sows and pigs should still be given some grain, while in the clover. Have a field of oats early sown—the size of the field to be in proportion to the number of hogs—and as soon as the oats are ripe, turn the hogs upon them to gather for themselves. To pasture hogs to the best advantage through the summer, it will be necessary to sow a field of rye, as above, and after they have eaten the oats, turn them upon the rye. Though the rye will be ripe before the oats, it is thought better to let the beards rot, and it will keep good in the field until September; whereas the oats will rot in a short time. After the hogs have eaten the rye, they may go upon the clover again. They then should have old corn to keep them from being reduced in flesh; the second crop of clover not being as good as the first. This method may appear very wasteful to those not familiar with it; but if a little grain is left on the field, it will be an excellent fertilizer, and the straw and everything that grew on the field is left there, except the fat that is driven off with the hogs. This leaves the field in good condition for the next year.

The hogs should be kept in good condition through the winter and spring. The best place to winter

them is in the woods, and let them have low, long, dry shelters to sleep in. Let them be turned on the clover the second year about the time it blossoms, and I prefer to give them a little grain. Then let them go on the oats and rye as they did the first year. When they come off the rye the second year, it is very important to grain feed them while on clover, until they are put up to fatten. It is a great advantage to have hogs large and in good condition when fattening time commences. A lot or small field of corn, early planted, to turn on about the 15th or 20th of September, is an excellent plan; or fence off, with a temporary fence, a portion of a larger field. Continue the hogs in the field until about the middle of October or the first of November; then take them to a field intended to be plowed for next season (a clover field is best), and feed them plentifully until about the first of December, at which time they will be fit for market or slaughtering.

By feeding down upon the field, you save the labor of gathering, and leave all that grew upon it, except what is driven off in fat upon the hogs. By sowing the field in rye a few days before the hogs are taken off, a fine crop can be obtained. The grain left upon the fields pastured during the summer will soon spring up, and afford a fine fall and early winter pasture. If it be intended to sow the oat and rye fields in clover, the pasturing down of the grain makes no difference. Take off the hogs as soon as they eat the grain. The decaying straw and manure left upon the field will be an advantage to the clover.

The hogs should be well salted, and have access to water. From the middle of October to the first of November, it is important to have a good, dry shelter for them to sleep in; earlier than that, they will generally sleep in the open air. If it is desired to fatten hogs the first season after we commence raising, of course we must buy them of suitable size in the spring. The number kept to breed from must be suitable to the number we want to raise.—A good brood sow will raise two litters a year, and from six to ten at a litter. A little experience in this matter will direct us aright.

By a strict attention to the above method of raising and fattening hogs, as much or more can be obtained for the grain than it can be sold for, and all of it fed upon the farm, which is no small consideration. By raising grain and selling it off the farm, it will be becoming poorer. By raising and judiciously fattening hogs, the farm will be growing richer. This, in ten years, will make a great difference. I have known some farms, reduced almost to sterility by bad management, by a proper management in sowing rye, and oats, and clover, and feeding them on the ground, made very productive. Feeding Indian corn upon the land is very improving to it. I once knew a field planted in corn for four years in succession, and the last crop was as good as any that preceded it.

In regard to the worth of grain fed to hogs, I made one long-continued experiment, which satisfied me that it is remunerative. Some years ago, I had a lot of corn which I could sell for only twenty cents per bushel. I concluded I would feed it to some pigs, which came about New Year's. I gave

them two ears a day each, until April—about ninety days. I weighed an average one on the 1st of April and it weighed fifty-two lbs. It was then worth two and a half cents per lb, or \$1.30. It had eaten one and a half bushels of corn. I then increased the feed to three ears per day, until the 15th of July—about one hundred and six days. Each eat, from April until the 15th of July, three hundred and eighteen ears; weight one hundred and thirty lbs, and worth \$3.25. They had eaten each, from January to the 15th of July, four hundred and ninety-eight ears—not five bushels of corn, which was only worth \$1; whereas the shoat was worth \$3.25. While corn was worth only \$1 for five bushels in the market, less than five bushels was worth \$3.25 fed to hogs. This was effected without clover in the summer. By calculating the above weights at four to five cents per lb, you will have the worth of the pigs at present prices. This convinced me that corn can be profitably fed to hogs.

I think now I have redeemed my promise; shown how hogs can be raised as a business, at the least amount of labor and expense, and leave the land in the best condition.

A. G. MULLINS.

Chesher's Stone, Anderson Co., Ky.

From the Rural Register.

THE FOUR ORGANIC ELEMENTS

OXYGEN, HYDROGEN, NITROGEN AND CARBON.

Many farmers are not familiar with the full meaning of chemical terms, used frequently by writers in agricultural works. The able editor of the *Scientific American*, is giving a brief description of the four organic elements, which we intended transferring to our columns, in order to assist such as are not familiar with chemistry, to understand their import. We commence with:

I.—OXYGEN

Nine pounds of water consist of eight pounds of oxygen and one pound of hydrogen; 342 pounds of red-lead consist of 310 pounds of lead and 32 pounds of oxygen; 100 pounds of atmospheric air consist of 77 pounds of hydrogen and 23 pounds of oxygen. One of the most curious facts of nature, is the change in the properties of substances, which results from their chemical combination. Oxygen and hydrogen combined together assume the liquid form; but oxygen, on being combined with lead, becomes solid, and the lead is no longer malleable, but may be pounded into powder. Oxygen, when separate or uncombined, has yet been obtained only in the gaseous state; but it is found in by far the largest quantities, in combination with other substances, forming either solids or liquids. It has strong affinity for more substances than any other of the elements. There is a great difference among them in respect; gold and platina are not disposed to combine with other things—they are old bachelors—but oxygen is a perfect Brigham Young—it wants to marry everything that it meets. It surrounds us on every side, but generally wedded to some other substance. It forms a portion of almost all the rocks which we see, and which make up the crust of our globe. Of 50 pounds of marble, 24 pounds are oxygen. In the three constituents of granite, it forms 40 per cent. of the feldspar, just

half of the mica, and more than half of the quartz.

All changes in chemical combination are accompanied by alteration of temperature. When oxygen especially combines with any other substance, there is always a great exhibition of heat, and generally of light. Almost all fire is produced in this way.—Burning a body is generally simply oxydizing it.—This was the great discovery of Lavoisier. He found that when a body is burned in oxygen the body is increased in weight precisely as much as the oxygen is diminished. If we take a tight jar full of oxygen gas and drop a piece of sulphur into it, the sulphur burns with intense brilliancy and disappears. But if we weigh the jar we find its weight exactly the same as the sulphur and the jar of oxygen added together weighed before. The sulphur was not destroyed by being burned, but combined with the oxygen to form sulphuric acid, which is a transparent and invisible gas. If we heat the end of a piece of iron wire red-hot, and introduce it into a jar of oxygen gas, the wire burns with the most brilliant scintillations, throwing down black scales. If we collect these scales and weigh them, we find that for every 117½ ounces of iron that were burned, we have 141 ounces of iron scales; and if we weigh the jar of oxygen, we find that that has lost 24 ounces of its weight.

When Lavoisier announced his discovery, all the chemists in Europe immediately supplied themselves with delicate scales; and the weight of various substances, as compared with each other, has now been ascertained by different observers, thousands of times. A young chemist would ask no better passport to universal fame than the detection of a material error in one of these weights.

The combustion of a gas or of a volatile substance, like sulphur or phosphorus, produces flame; while, if the substance, is solid and not volatile, it burns without flame.

The heat of our bodies is kept up by slow combustion or oxydation. The air, on entering the lungs, is spread through thousands of cells, where it is separated from the blood by exceedingly thin membranes, through which the oxygen of the air is absorbed by the blood. Here it enters into combination with the carbon which has before been brought to the blood from the food taken into the stomach, burning the carbon as literally and truly as the coal is burned in the grate, and producing the same substance as the burning of the coal produces, that is, carbonic acid gas. Our lungs are perfect furnaces which warm the body by a constant though slow combustion.

II.—HYDROGEN.

Hydrogen makes its most common appearance to us in flame. Whenever we see a blaze, there are many chances to one that there hydrogen and oxygen are entering into combination; in other words that hydrogen is being oxydized or burned. There are a few exceptions: sulphur, phosphorus and other volatile substances, as well as those gases which burn at all, burn with a blaze; but most of the flames that we see—the blaze of an oil lamp, of a candle, of illumination gas, of bituminous coal, of a wood fire, of nearly all fire—are, wholly or in part, the result of the combination of oxygen and hydro-

gen. In a blaze, the heat and light are all on the outside, as it is here alone that the burning gas can come in contact with the oxygen of the air. If we take a blow-pipe and blow the air through the flame we set the whole body of the jet of gas on fire, and increase the heat enormously. In the compound blow-pipe, pure oxygen gas is mixed with pure hydrogen gas as they issue from the pipe, in the proportion of eight ounces of oxygen to one ounce of hydrogen, and the most intense heat is produced which it is possible to produce by combustion.

Oxygen and hydrogen combine to form water in the proportion of one pound of hydrogen to eight pounds of oxygen; or more exactly, 1,000 pounds of hydrogen to 8,013 pounds of oxygen. Oxygen and hydrogen also form one other combination, in the proportion of 1,000 pounds of hydrogen to 16,026 pounds oxygen. This compound is a syrupy liquid of a nauseous bitter taste, which does not become solid even in a very intense cold. Without the interposition of other substances, it is impossible to make oxygen and hydrogen combine in any other proportions except these two. If we mix 8,013 ounces of oxygen with 1,000 ounces of hydrogen, and touch the mixture with a spark of fire, the two gases combine with a flash and a report, forming water.—There is so much heat developed that the water at first is expanded in vapor and is invisible, but it soon cools and condenses into the liquid form. If there is a single grain of either oxygen or hydrogen more than the proportion above stated, such surplus will not enter into the combination, but will remain separate and retain the gaseous form. The other combination, which forms the syrupy liquid, is of just twice the quantity of oxygen to the same quantity of hydrogen.

Water may be decomposed by means of a galvanic battery and the oxygen all carried into one jar and the hydrogen, though eight times as heavy, occupies precisely half the bulk of the hydrogen.

SAVING SEEDS.—Be sure to select those only of the largest and from the most perfect plants.—Leave out the small and light seeds. This system pursued with regularity for a few years, will be sure to produce superior results.

With parsnip seeds, save the crown tufts only; with cabbage the product of the middle collary only of the seed stalks, disconnecting them from the outside and separating the light seed with care. All seed should be rapidly and thoroughly dried.—When dried slowly a portion of the seed in each capsule will be found to have softened. Never leave hanging on fences during showers, for if the pods are moistened, the color and quality are sure to be injured by the next day's sun.

INSECTS ON STOCK.—Well kept stock, housed in clean, well littered, white-washed stables, are rarely, unless they take them from other cattle, troubled with vermin—but pulverized copperas and sulphur, in the proportion of one teaspoonful of copperas and two of sulphur, with a little salt—mixed in half a bushel of meal, given twice a week for three weeks, to 100 head of cattle or hogs, is said to be a complete remedy.

CHEMICAL TREATMENT OF THE SOIL.

BY PROF. CAMPBELL.

A soil may receive all the attention possible, in the way of plowing, draining, &c., and still not be productive. It may yet lack some of the proper chemical elements necessary to supply the wants of the growing crop. The mineral ingredients taken from the soil by different crops are nearly identical in *kind*, but vary considerably in the *proportions* in which they enter into the constitution of the ashes of different plants, or different parts of the same plant.

That a soil may be fertile for a particular crop, several chemical properties are essential. It must contain a sufficient excess of the mineral elements required by the crop, to allow the roots to find an abundant supply within the limited spaces which can be reached by the rootlets. Of course, this would require, in the whole mass of the soil, much more of each element than could be removed by a single crop. *The plant-food must be in the proper chemical and physical condition to be taken up and appropriated by the plants.* Silica, in the condition of *sand*, cannot act as a fertilizer, because of its insolubility; but, in such combinations as render it soluble, it is one of the most important elements of nutriment for plants. *The soil must be free from an injurious excess of any of the elements of fertility.* Too much magnesia, or even too much carbonate of lime, may be injurious; as in the chalk lands of England, which are among the least productive of that country. The acids in humus are useful to a certain extent, but in large excess they become injurious. *Organic matter is essential to a high degree of fertility.* In a soil having the proper mineral elements alone, a plant may come to maturity, and bear seed, obtaining the necessary organic food from the air, through its leaves and roots; but a *full crop* cannot be expected in such a case. The soil, to be fertile, must contain both humus and ammonia.

The analysis of a soil is not *always* sufficient to decide the question whether it is fertile or not.—The per cent. of some ingredients taken from the land, by even several successive crops, is so extremely small, that the most delicate chemical tests would barely indicate *traces* of their presence. Far less than one per cent of phosphoric acid, or chlorine, or potassa, or lime, would be sufficient for all the crops that could be cultivated on a soil for many successive years. Even *one-hundredth* of one per cent is more than sufficient to supply many crops. But chemical analysis can detect far less than this, and yet not be able to say *positively* whether the soil is fertile or not for a particular crop; for the substance may be present in sufficient quantity, but not in the proper *condition* to be used by the plant. Chemistry is not able, in every case, to say in what combination elements exist in soils, where the proportions are extremely small; much less has it been able to tell us in what combinations the plant takes up its mineral food. Still, this valuable science has thrown much light upon the relation subsisting between the soil and the crop.

Analysis tells us, in the first place, that productive

soils always contain the same mineral matter found in the ashes of the plants which grow upon them. In the second place, it tells us which elements of fertility exist in very minute quantities, and which, in abundance, and then points to the sources from which we may supply those in which the soil is deficient; but it *cannot always predict* the influence which a particular fertilizer is to have upon the crop to which it is applied. It frequently tells us, too, when an injurious excess of any substance is present, and what applications are to be made, to counteract the influence of such substance. We shall place side by side, in the following table, the analyses of three soils, differing in quality. The *first* is fertile for all ordinary crops, *without manure*. The reason of this will be seen in the presence of an abundance of those substances found in the ashes of plants. The *second* is a soil which produces well, with the application of *gypsum and ashes*.—The deficiencies in the table are thus filled up.—The *third* is a poor soil, requiring much manuring. Observe in how many ingredients it is deficient.

In 100 lbs of soil.	Fertile.	Fertile with ashes and gypsum.	Infertile.
Organic matter.....	10.00.....	5.60.....	6.00
Potassa.....	0.40.....	0.01.....	Deficient.
Soda.....	0.20.....	0.20.....	Deficient.
Lime.....	5.90.....	1.80.....	0.50
Magnesia.....	0.80.....	0.70.....	0.80
Oxide of Iron.....	2.10.....	4.10.....	8.00
Oxide of Manganese..	0.10.....	0.30.....	1.00
Alumina.....	10.70.....	25.60.....	25.30
Phosphoric acid.....	0.40.....	0.20.....	Deficient.
Sulphuric acid.....	0.30.....	Deficient.....	Deficient.
Carbonic acid.....	5.20.....	1.40.....	0.50
Silica.....	63.90.....	60.00.....	58.00
Chlorine.....	0.02.....	0.07.....	Deficient.

It will be seen, from the first column of the above table, that even a fertile soil may have but a small per centage of several ingredients which are absolutely necessary in the production of every crop.—No crop, for example, can be produced without potassa and phosphoric acid; and yet these form a very small proportion of any ordinary soil. A single crop takes away but little of any one element of fertility; but still, repeated cultivation of similar crops for many years, must greatly diminish the supply of those mineral elements found in the ashes of such crops.

Every bushel of wheat, every hogshead of tobacco, every ton of hay, and every bale of cotton sold, carries with it a portion of potassa, lime, phosphoric acid, and other mineral matter. Every fatted ox carries with him to market a good many pounds of phosphate of lime, which came from the soil on which his food was produced.

If every article of produce sent to market carries with it a portion of the mineral fertility of the farm, this must in some way be restored, else the land must become poor. Some soils may contain all the mineral elements of fertility in such abundance, that even centuries of cultivation would not exhaust them entirely; but such is not generally the case. Some of the fields in the central and northern parts of Kentucky, have been cultivated for more than half a century without manure, and are still fertile. Some of the James river bottoms, in Virginia, have

been cultivated for more than a century without manure, and still produce well. But we must not draw general conclusions from a few extraordinary cases. The *general* experience of the world is, *that land becomes exhausted by long tillage without manure.*

The *organic*, as well as the *inorganic*, matter is exhausted by *improper* cultivation. The *humus* of the soil is decomposed, and gradually disappears; and unless fresh portions are supplied from time to time, a *deficiency* must be the result. The *ammonia* is still more rapidly exhausted. The natural supply of ammonia in soils is not generally abundant, while its volatility and chemical activity cause it to be constantly escaping, or undergoing changes of form and combination. Hence, we see the necessity for artificial fertilizers.

THE CULTURE OF GRASSES IN THE SOUTH.

The limited supply of grasses in the South, especially those intended for hay, demands a more general attention to this crop than it has yet received. It has been a favorite theory with many that grasses will not succeed in our climate, the refutation of which can be had by any person who will take the trouble to observe the crops of his neighborhood. It may be, perhaps, that many of the grasses that have become popular in the North, and highly recommended by Northern agricultural papers, will not succeed with us; at the same time, there are many varieties that are indigenous and perfectly adapted to this latitude, that are superior as hay and pasturage crops.

A knowledge of such grasses—as regards their specific distinction, the qualities and habits of different species and varieties, their adaptation to different localities and soils, and their relative value for different animals—is, therefore, a subject which demands the Southern farmers' attention, and we desire to collect and distribute through the *Southern Homestead*, such facts and information as will tend to increase the general knowledge upon this subject, throughout the Southern States. The fact, that hay brought from the North is now selling in this market at \$30 per ton, makes this knowledge the more important.

Much confusion has originated in various sections of the Union, from the want of a systematic naming of the different grasses. For instance: In New England, what we here term Herd's Grass, is there designated as Red-top; and what is here known as Timothy, is there known as Herd's Grass, and so on, with various other grasses. This can but result in serious inconvenience to the farmer who attempts to follow the directions given in Northern agricultural journals, for propagating grasses thus confused in name. While he would be apt to think he was following the directions for Herd's Grass, he would be pursuing the course necessary for Timothy, and so with many other varieties. We shall, therefore, in speaking of grasses, refer to them by the name they are recognized by in this country.

We give herewith, an illustration of the Orchard Grass, which has been found well adapted to this latitude for grazing purposes. It is without doubt a native of the Middle Southern States, as it was first

introduced into England from Virginia, in 1764, where it has ever since been regarded as one of the best pasture grasses. It is very palatable to stock; it is rapid in growth, produces a luxuriant aftermath, and withstands the continued cropping by cattle better than most kinds of pasture grass. It blooms near the same season with red clover, and hence is highly prized to sow with that grass as a hay crop. It makes an excellent permanent pasture thus mixed with clover and other grasses. It grows up quickly after having been cropped down. In this respect it is more valuable than blue grass. It also withstands a drouth better than any other grass, keeping green when most other sorts are entirely dried up. Two bushels of seed are required for an acre when sowed alone, or half that quantity when sown with clover.

It is gaining popularity very rapidly in Tennessee, and when its value is generally known it will supersede many of the kinds now cultivated as pastures that are liable to be killed by the protracted drouth of our seasons.

URINE AS MANURE---ITS VALUE.

The fluid excreta of animals has a high value, and far surpasses that of the more solid portions.—When urine is recently voided, it has strange chemical powers, and assists materially, in decomposing vegetable matters. This is not the case to so great an extent, after it has parted with its animal heat. It is for this reason that we have so often urged the necessity of packing a gutter or semi-circular ditch under hind feet of animals in stables, with muck, peat, leaves from the woods, and other vegetable substances, capable of absorbing the urine as voided, and of retaining its volatile portions. This practice secures in degree the health of the animals, by causing the absorption of gases given off from the surface of their bodies, from the manures, etc. It is a mistake to suppose that thinly divided hay or straw is sufficient for this purpose: the bedding should be underlaid, at least that portion furthest from the manger, with the materials we have suggested. Many market gardeners in manufacturing towns, place barrels with funnels in their bungs, in manufacturing establishments, to catch the urine of the workmen. The different salts it contains are highly valuable, and a single barrel of human urine when diluted with a proper quantity of water and spread on soil, will produce a larger amount of crops than a cord of well rotted stable manure.—Even the urine of the cow has very great value; for in 100 lbs, in addition to the 65 lbs of water it contains, we find 5 lbs of urea, 5 lbs of phosphate of lime, 12 lbs of sal ammonia and muriate of potash, and 4 lbs of carbonate of potash and ammonia. The quantity of urea in the urine, as compared with cow dung, is as 5 to 2, and in all others ammoniacal salts as 15 to 2, and about four times the quantity of the salts of ammonia than the solid evacuations; indeed 1000 lbs of the urine of the cow will yield 35 lbs of the most valuable of salts. A cord of common loam, saturated with urine, will equal a similar quantity of the best rotten manure. While the fluid excrement of the cow will manure an acre and a half per annum, the solid evacuations

will not fertilize more than an acre. How then can farmers leave the urine of the cow and other animals, exposed in an open barn-yard?

The urine of the horse contains much hippuric acid, which takes the place of the uric acid. In 100 lbs of the urine of the horse, we find 7-10 of a pound of urea, 9-10 of a pound of carbonate of soda, 1 pound and a fraction of carbonate of lime, 2 4-10 pounds of hippurate of soda, and more than a third of a pound of muriate of potash.

In 1000 pounds of human urine, we have upwards of 32 pounds of soda.

When we see the urine of animals received upon a thin bedding, and then permitted to run off into an open barn-yard exposed to the sun, is to see one of the signs indicating fogginess in farming.—*Working Farmer*.

ADVANTAGES OF PULVERIZING THE SOIL.

The effects of pulverization or stirring the soil are numerous:

1. It gives free scope to the roots of vegetables, and they become more fibrous in a loose than in a hard soil, by which the mouths or pores become more numerous, and such food as is in the soil has a better chance of being sought after and taken up by them.

2. It admits the atmospheric air to the spongioles of the roots—without which no plant can make a healthy growth.

3. It increases the capillary attraction or sponge-like property of soils, by which their humidity is rendered more uniform; and in a hot season it increases the deposit of dew, and admits it to the roots.

4. It increases the temperature of the soil in the spring, by admitting the warm air and tepid rain.

5. It increases the supply of organic food. The atmosphere contains carbonic acid, ammonia, and nitric acid—all most powerful fertilizers and solvents. A loose soil attracts and condenses them. Rain and dew, also contain them. And when these fertilizing gases are carried into the soil by rain water, they are absorbed and retained by the soil, for the use of plants. On the other hand, if the soil is hard, the water runs off the surface, and instead of leaving these gases in the soil, carries off some of the best portions of the soil with it. Thus what might be a benefit becomes an injury.

6. By means of pulverization, a portion of the atmospheric air is buried in the soil, and it is supposed that ammonia and nitric acid are formed by mutual decomposition of this air and the moisture of the soil—heat also being evolved by the changes.

7. Pulverization of the surface of soils serve to retain the moisture in the subsoil, and to prevent it from being penetrated by heat from a warmer, as well as from radiating its heat to a colder atmosphere than itself. These effects are produced by the porosity of the pulverized stratum, which acts as a mulch, especially on heavy soils.

8. Pulverization, also as the combined effects of several of the preceding causes, accelerates the decomposition of the organic matter in the soil, and the disintegration of the mineral matter; and thus prepares the inert matter of the soil for assimilation by the plants.—*Genesee Farmer*.

BENEFITS OF GEOLOGICAL SURVEYS.—Three years ago the legislature of North Carolina made a small appropriation for a geological survey of the State. The discoveries of the year developed the existence of copper and gold ores, drew to them the attention of capitalists, and have already increased the revenue of the State to five times the cost of the whole survey. In the second year, seams of the most bituminous coal, some of them fifteen inches in thickness, extending through a region of some forty-five square miles, reward their investigations. It is estimated that every thousand acres of these seams contain thirty millions of tons of bituminous coal of the best quality.—*Galena Jeffersonian*.

FOUR GOOD HABITS.—There were four good habits a wise man recommended in his counsels, and which he considered to be essentially necessary for the management of temporal concerns, and these were, punctuality, accuracy, steadiness and despatch. Without the first of these, time is wasted; without the second, mistakes the most hurtful to our own credit and interest, and that of others, may be committed; without the third, nothing can be well done; and without the fourth opportunities of great advantages are lost, which it is impossible to recall.

MILLET FOR MILCH COWS.—Elijah Wood, Jr., of Concord, Mass., who has been for twenty years in the milk business, said (as reported in the *N. E. Farmer*,) at a recent agricultural meeting in Boston, "If I can attribute my success to any one crop, it is millet. I first cut two tons of millet, and soon increased it to twenty tons. * * Millet is not so good as English hay, but is worth two-thirds or three-fourths as much." He sows a peck of seed to the acre. Mr. W. commenced with four cows, but in fifteen years kept twenty-four cows on the same farm, and is now keeping 80 head of cattle, having leased another farm.

WORTH REMEMBERING.—The following were Jefferson's ten rules to be observed in practical life:

1st. Never put off till to-morrow, what you can do to day.

2nd. Never trouble others for what you can do yourself.

3rd. Never spend your money before you have it.

4th. Never buy what you do not want, because it is cheap.

5th. Pride costs us more than hunger, thirst and cold.

6th. We never repent of having eaten too little.

7th. Nothing is troublesome that we do willingly.

8th. How much pains have those evils cost us, which have never happened.

9th. Take things always by their smooth handle.

10th. When angry count ten before you speak, if very angry, a hundred.

If you invest money in tools, and then leave them exposed to the weather, it is the same as lending money to a spendthrift without security—a dead loss.

It is exceedingly bad husbandry to harrow up the feelings of your wife.

The Farmer and Planter.

COLUMBIA, S. C., APRIL, 1880.

OMISSION IN THE PREMIUM LIST.

The Secretary of the State Agricultural Society has called our attention to the following important omission in the Premium List, printed by us:

Under the head of Swine, the Premiums for Sows, (being just the same as those for Boars,) has been omitted.

We regret this error, but hope the correction will be remembered by all, so that it will not deter any from exhibiting fine sows, at the next fair.—PUBLISHER.

HINTS FOR THE MONTH.

April, on the farm and plantation, is always a busy month, and big with hopes and fears for the future. What sort of a stand of corn have you? is the first question put by every neighbor you meet, and by it you are taught the importance of doing well that upon which so much of the future depends.

It is too late now, however, to cry over spilt milk. If you have not a good stand, plow up and plant over—it will put your ground in better order and will save time. As soon as you can plow your corn get to it; run as close to it and as deep into the ground as you can afford to do. There is a great deal in giving any young plant a good start—"it is half the battle." Do not be in too great a hurry and plow ground too wet—it is like the militia captain's manoeuvre, "an advance backwards."

The cotton crop is now the engrossing operation. "Everybody" is pushing to "get in his cotton so as to be ready for the corn when it comes up;" and "everybody" is too apt to do in a very careless slipshod manner, that which would pay better by doing well. To our mind it is better to be even a week or so late, if by so doing one can have the ground in better order, and the crop planted more carefully.

Don't forget one thing before you leave a field—to have all your ditches cleaned out and the banks strengthened, for "old Billy Williams" says we always have a big storm between the 6th and 16th of April, which makes sad havoc on hill sides. A wash made now will be sure to be a "waste way" the year round. It is a good plan to sow clover, oats, barley, &c., on the ditch banks, to protect them.

Select good cotton seed; it will pay; roll in plaster, guano, phosphate, lime or ashes. it will save seed, and stimulate the young plant to a healthy growth, and the future of no plant depends more upon a good healthy start. Doctors differ as to the

NEW SERIES, VOL. II.—15.

quantity of seed, mode of covering, depth, and we will leave "every man to his own humor."

Smell' grain.—Take off all stock. Look to the fences, right up the work of the March winds, and use the little spell of leisure which sometimes comes in after planting, to repair tools, handle hoes, and fix up generally.

Stock.—Salt regularly; a little sulphur, ashes and soot for cattle, sheep and horses. The effect of the buds must be watched closely. Keep an eye on young heifers, the young lambs, and old sows. Don't shear sheep in April, for fear you may lose an ounce or so of wool. Give hogs copperas soaked corn occasionally, and salt them regularly. Clover lots now will be enjoyed by everything to advantage—but nothing more than a hog.

After reading this, go over to your neighbor, and get him to subscribe for the *Farmer and Planter*, and we will guarantee a good night's rest and pleasant dreams.

THE SOUTHERN CULTIVATOR vs. MR. CALHOUN'S ADDRESS AT THE S. C. FAIR.

We are indebted to the *Southern Cultivator* (which, by the way, is a very irregular visitor,) for a critique upon Mr. CALHOUN'S Address, which is too full of heresies to be allowed to pass unnoticed.

The writer makes an effort to be facetious over a remark of Mr. CALHOUN'S, that "there never was a greater mistake than that the education of the agriculturist should be a special one," and makes a fling at the speaker, by saying, if "he had passed through an agricultural school, he would probably have written a very different address—that there must be special preparation for special pursuits, if we would succeed in them." The *Cultivator* never was farther out at sea. Mr. CALHOUN has been a planter, and nothing but a planter, since his outset in life; and what is more, he has been a successful one, as we have good reason to know. He is not only a good planter, but is also a good farmer, as every one who has visited his farm must know. Whatever may be "this bias of early training, visible through the whole production," it does not seem to have seriously interfered with the "details of agriculture." Mr. CALHOUN has been successful in a vocation of his own choosing—has the critic of the *Cultivator* been as much so? Has the education of the critic been "a more special preparation" for giving lessons on planting than Mr. CALHOUN'S?

We believe in the old adage "that there is more in the boy than in the college," and that agricultural colleges can no more, *ex necessitate*, make good agriculturists out of jackasses, visionary enthusiasts, or humbugs, than any other colleges.

There never was a greater fallacy, than the doctrine often advocated, that a man must be specially

trained for a special pursuit. It is the *intellectual training* only, and not the thing learned that fits him to work out the problem, which his own good sense will point out to him in due season. You may put him at Greek, Latin, French, Mathematics, or what you please, it is all worth little or nothing, but as a *training* for future usefulness, in the vocation which he may choose. But we will not pursue this question, about which Doctors may be allowed to differ. The writer in the *Cultivator*, in his remarks upon Mr. CALHOUN's censures on the Tariff, says "that the most sensible course for the South to pursue, is to make the best of that which we find we cannot alter." A very tame philosophy! "Let us manufacture." "Let us get the benefit of the protection." If people will plunder, why there is no good sense in our refusing to join for a share of the profits—confound constitutional scruples, says this age of progress. "We can do it, and beat the North at it."—"We do not know how it is in Carolina, but the well conducted factories in Georgia have paid handsome dividends to the stockholders:" but this is owing, say the writer, "to the force of the truth we have been considering—that special pursuits require special preparation." We are gratified to learn that the "well conducted factories of Georgia have been successful." Our only fears are, that their number, like ours, can be written in monosyllables. Our failures in manufacturing cannot be charged to the want of *special* education, of which we can offer no stronger evidence than the following extract from the writings of a gentleman in the *Charleston Mercury*, fully posted up on the subject:

The want of home patronage to domestic industry at the South, is so indelibly marked on every page of the history of our progress in economic thrift, that the most obtuse must clearly see it, when the facts are set before him—and we trust that we shall be able to lay it so plainly open to public view, as to cause the South to pause for a time, and take advantage of the present excited state of our country in such a course of policy as will enable her to make amends for her past supineness in protecting our own people, in their efforts to supply our wants by the products of home industry.

To show how careless we have been about such matters, and how little pains we have usually taken to look after our best interests, by endeavoring to procure the best articles when we purchase, we will state the fact, that the Graniteville Factory was ten years in operation before their excellent and substantial goods were scarcely known in the District of Edgefield, in which it is situated. Until within the last two years, very few indeed have been sold so near home; and we doubt much if they can now be found on the shelves of one store out of every five in Edgefield. If it is not more convenient, it is more profitable, for merchants to send to New York for Yankee fabrics not half as good.

It is a remarkable fact that Graniteville goods are more popular in New York and Philadelphia than

they are at home. Many villages in Georgia, Alabama, Tennessee and Mississippi, supply the country around them exclusively with these goods, through the Charleston trade. Georgia plains and stripes stand prominently forth among the neglected articles of home manufacture. Is anything more glaring than the neglect of our own interest, in refusing to buy and use such articles as those named? It is a reproach on our practical good sense, that we have not always had a *paying home demand* for them. Georgia stripes were so good an article, and so likely to supersede all other goods of the kind, that they were immediately imitated by Northern manufacturers, and a much inferior article sent out to drive ours out of the market. The result was that one Southern factory after another either failed entirely, or was obliged to give up the making of stripes, until now, when our people are beginning to wake up, and see the error they committed in purchasing *Yankee-made Georgia stripes*. (The demand just now for the *genuine article* cannot be supplied.) It was the same case with Georgia Woollen plains (cotton warp and wool filling), which has for a few years past been supplied in large quantities by Georgia, Virginia, Maryland, North Carolina, South Carolina, Alabama, Kentucky, Missouri and Texas. Notwithstanding the faithful manner in which this article was made, it was years getting a foothold. But as soon as it began to be used by Southern customers, it was, like the stripes, counterfeited at the North, and thousands of bales sent out here made of cotton waste, dyed and spun into yarn, and substituted for wool filling, with just wool or hair enough mixed in to make it smell of it when burnt. We were, until lately, at a loss to know what sort of wool the Yankees use to make Georgia plains of. It is a secret among themselves. We have on several occasions tried to separate the wool from the cotton in filling thread, but frequently have found no staple in either the cotton or the wool. And, flimsy as that article is, thousands of our Southern people have clothed their negroes with it. And, so much has the competition in that article worked against the sale of the honestly-made half-woollen Georgia plains, that one of our most intelligent and enterprising Georgia manufacturers deemed it expedient and adopted the plan of mixing dyed cotton waste with his wool—contrary, we think, to sound policy; for the Southern people will most assuredly come to their senses, in the course of time, and compensate those who have expended their capital, and so faithfully spent their lives in industrious efforts to enable the South to stand on her own bottom.

We sometimes almost despair, and find ourselves ready to give up the South to Yankee rule, so far as the protection of domestic industry depends on a preference being given to home-made goods.

MR. CALHOUN's remarks, however, upon the attempts of the General Government to foster agriculture, seem to have been most obnoxious to the critic. He complains of their being rash, unjust, and, in so many words, unstatesmanlike. He gets out of patience, grows patriotic, turns his eyes towards Mt. Vernon, and parades Gen. Washington and *Senator Read, of South Carolina*, to put down MR. CALHOUN.

Well, it is something to be in good company, if we do not think alike. MR. CALHOUN may, perhaps, flatter himself.

Gen. Washington, it is but too well known, was a Federalist, and, albeit, we might have been willing to trust the Government in his hands, having full faith in his *amor patriæ*, and old fashioned honesty. He is, perhaps, the only man whom we would have trusted. But it should be remembered that, when he advocated Governmental aid to agriculture, that the Government was in its infancy. Its resources had been exhausted by a long war. It was an agricultural country, and agriculture had been the chief sufferer. While the sparseness of the population, the difficulties of intercourse, of transportation, of procuring seeds and plants, and of experimenting, were all drawbacks and difficulties, for the removal of which the people would most naturally look to Government—their long accustomed source of aid and protection.

From a mere handful of men, we have grown into an immense nation of thirty millions. From a few plantations, scattered along the sea-coasts and rivers, we have spread out over a whole continent. In less than a century we have increased the production and consumption of cotton from a few hundreds to nearly five millions of bales. It is our boast that we can clothe and feed the world, and, if necessary, whip it; and yet we want the General Government to foster agriculture—to teach our people how to till the soil.

"It is pitiful, wondrous pitiful."

But we must thank the critic for calling our attention to what Mr. READ said, for he spoke of the intervention of Legislative aid and protection to the establishment of *useful manufactures*. And how much trouble to agriculture, and to the peace of the country, has come from this fruitful source of mischief? And now it is proposed to inaugurate a scheme of corruption as broad as our acres. We do not believe that a more monstrous fraud has ever been attempted upon the people, than the "batch of agricultural colleges," so much talked of. They would have formed the nidus for the hatching out of all sorts of parasites and humbugs, which fatten upon the earnings of industry; the nucleus for collecting hungry office seekers, and visionary Jack O'Lanterns of science, who would be perpetually leading the unwary into bogs and marshes. If such a bill had passed, "Old Buck's" epitaph might have been written. He could not have lived through one week of such an office seeker's levee.

We have been insensibly led to say more than we intended, when we took up our pen, but, as the critic in the *Cultivator* expressed himself as bound in duty, as a public journalist, to condemn such heresies as he found advocated by the President of the South Carolina Agricultural Society, we hope that we may be pardoned for expressing our approbation of an opinion, which *we rejoice* to "believe that he is sustained in by the majority of the Southern people."

THE GREAT PEACE-MAKER.

We would direct the attention of our readers to a very suggestive article from the *London Cotton Reporter*. It is a clear, candid statement, in which the great staple looms up above all pharisaical considerations. The naked truth stands out in full relief. It is marvellous what a change has been wrought in a very short period by the inexorable law of demand and supply upon the English mind. Lord Brougham, and other great men—given to ranting on universal freedom topics—still indulge in vapors now and then, but the thinking and acting people have taken a very different view of the matter.—The *London Times*, perhaps the organ most expressive of the sentiment of the higher classes of England, says:

"The importation of cotton into this country has, since the import duty was abolished, increased sixteen fold. Having been 63,000,000 lb, it is now 1,000,000,000 lb. This is one of those giant facts which stand head and shoulders higher than the crowd—so high and so broad that we can neither overlook it nor affect not to see it. It proves the existence of a thousand smaller facts that must stand under its shadow. It tells of sixteen times as many mills—sixteen times as many English families living by working those mills; sixteen times as much profit derived from sixteen times as much capital engaged in this manufacture. It carries after it sequences of increased quantity of freights and insurances, and necessities for sixteen times the amount of customers to consume, to our profit, the immense amount of produce we are turning out. There are not many such facts as these arising in the quiet routine of industrial history. It is so large and so steady, that we can steer our national policy by it; it is so important to us that we should be reduced to embarrassment if it were suddenly to disappear. It teaches us to persevere in a policy which has produced so wonderful a result; its beneficent operation makes it essential to us to deal carefully with it now we have got it.

"If France, who is already moving onwards in a restless, purblind state, should open her eyes wide—should give herself fair play, by accepting our coals, iron, and machinery, and, under the stimulus of a wholesome competition, should take to manufacturing upon a large scale, then these thousand millions will not be enough. France will be competing with us in the foreign cotton markets, stimulating still further the produce of Georgia and South Carolina. The jump which the consumption of cotton in England has just made, is but a single leap, which may be repeated indefinitely. There are a thousand millions of mankind upon the globe, all of whom can be most comfortably clad in cotton.—Every year new tribes and new nations are added to the category of cotton-wearers. There is every reason to believe that the supply of this universal necessity will, for many years yet to come, fail to keep pace with the demand; and, in the interest of that large class of our countrymen to whom cotton is bread, we must continue to hope that the United States will be able to supply us in years to come with twice as much as we have bought of them in years past."

France is not the only nation alive to the importance of looking out work for her people. Germany, with her teeming population, is turning her attention to manufactures. That gigantic power, Russia, is making rapid strides in the same direction.—Mischief will be always the work of idle hands, and the Governments of the old world are rapidly finding out that the old dogma of going to war to keep the peace, is a dangerous, as well as a very expensive experiment. "The right to labor" has something more significant than many suspect. The Governments of Europe have not our facilities for spreading out—for "filibustering;" they have occupied all their territory, and must either resort to emigration or a change of the investment of labor. Manufacturing is the very business best adapted to a dense population and despotic Governments. We have only to be true to ourselves to become the most prosperous and happy of nations under the sun. With every variety of soil and climate to secure our independence of the world, if necessary, and with the best adapted region in the world, and the best adapted system of labor to produce the best and cheapest article for clothing the world, it will be our own fault if we fail. Be sure to make a plenty of hog and hominy—and all the cotton we can.

"TIT FOR TAT."

It has been a source of unusual gratification to us, that we have rarely found the columns of our Agricultural Exchanges, North, blurred by impertinent flings at the "Southern Institution," as it is called. Our eye fell upon a remark in the *Wisconsin Farmer*, the other day, however, which we must beg leave to correct. The writer says that "the Southern people live in a perpetual dread of servile insurrection," &c. Now, there never was a greater mistake. We do live in perpetual dread of the underground Railroad operators; there is no mistake in that. We have no fears whatever but that we can manage our own business; and throughout the whole South there are thousands of plantations upon which the key is never turned in the lock during the night, from year's end to year's end. Can as much be said North of Mason and Dixon? If our cousins over the line will let us alone, we'll be sure to let them alone—there's a child's bargain.—Let us enjoy our own "peculiar institution," and we are willing to allow them, to the length of their tether, the full enjoyment of all the isms of the age.

Miner's Rural American occasionally dabbles a little in politics, and, in an apologetic strain, "kinder" defends the South. It says that a large proportion of Southern Planters are opposed to slavery, and confess that it is a drawback upon the prosperity of the country, but they know not how

to get rid of it. *Miner* never made a greater blunder. If we have any such philanthropists among us they are very mum, and only known to Yankee drummers and book peddlers.

The Southern people have been (thanks to our Northern brethren) driven to the true position on this subject—not as apologists, but conscientious believers and advocates of it. [We believe it to be the best system of labor adapted to the South; we believe the condition and happiness, usefulness and improvement of the negro on a better footing than could be secured in any other manner. We believe our social system to be a more admirable one than the North. We are satisfied with our prosperity, and willing to take the whole responsibility morally, and only ask to be let alone.] We believe Sir Robert Peel was right, when he said it was the only conservative element of our Republic, and when slavery was abolished the whole fabric would tumble about our ears. And we believe if a John Brown had settled in the Jerseys, and set about an organization to place arms in the hands of the poor and destitute, the ignorant and depraved, who hang about the skirts of Northern civilization, and divide the immense wealth of the New York millionaires among the masses, that he would have mustered into service a much more formidable force, and found another sort of a panic pervading the gilded saloons of her aristocratic nabobs, than he did at Harper's Ferry. It would have been "every man take care of himself, and devil take the hindmost."

HOG CHOLERA.

The loss annually sustained by the breeders of this interesting animal, by cholera, in the "hog and hominy" country, has been immense. We are sorry to see, by newspaper statements, that it is beginning to make its appearance in the planting States. Will it not be well enough to look into the matter, and see if we can reap any benefit from the experience of those who have suffered by its ravages.

We transfer a communication from the *Country Gentleman*, on the subject, to our columns, which gives the true diagnosis of the disease, as it has appeared in our vicinity.

We cannot offer any opinion as to the efficacy of the treatment recommended. Our first case was one of the thriftiest and fattest hogs on the plantation; noticed him walking slowly toward the lot, near nightfall, and endeavored to call his attention to a pail of slop, which was just being thrown into the hog trough. He walked on without noticing our call. Next morning found him laying down in the lot very stupid—cut off his tail—(the first thing done, we believe, to a sick hog.) He ran off, bleeding freely. At noon found him purging freely—green, watery, and offensive discharges—gave him

tar and copperas, washed his fore legs, and turned him into a lot to himself—he moped about, hunting for cool places, (January too) seemed stupid, eat nothing, and in a few days died.

Case No. 2, one of the same litter taken sick, the same symptoms, mopish, with a peculiar purplish coloring of the skin, now and then splotches of darker hue, but no purging—gave tar and copperas, and turned him into a separate lot—in a few days got well.

Case No. 3.—Same litter taken same way—same treatment—died in a few days.

Case No. 4.—Dark, purplish splotches on the skin—mopish, rarely leaving the lot—gave same remedies—got well.

Case No. 5.—Died soon after taken.

Case No. 6.—Died in same manner.

Case No. 7.—Found dead in bed.

Cases No. 8 and 9—two pigs.—Can't say whether they died of same disease or not.

After the first two deaths, mixed up a slop of meal, copperas, ashes and salt, and gave all the hogs a bait once a day for several days. No new cases have occurred for a few weeks, but whether the treatment is the reason, we are not prepared to say—at all events it did no harm. We have heard of many cases in the neighborhood. On one or two plantations they have lost almost every hog. We have seen spirits turpentine recommended as a valuable remedy, but incline to the opinion that there is no cure certain, and that an “ounce of preventive will be found worth a pound of cure.”

“SANDED COTTON.”

We have received a circular from a “Special Committee of the New York Chamber of Commerce,” on the above subject, offering various suggestions for the prevention and detection of a very dishonorable transaction.

We would most heartily advocate the enactment of any law to punish, or any police regulation to detect, an individual who would stoop to such frauds, for they must, in some degree, attach to the agricultural profession.

But, while we are very willing to bring the guilty to punishment, we have no desire to place the innocent in the “lion's mouth.”

If A. sells cotton to B., B. has certainly a right to enter it in his book, with such marks as he sees proper to make, and if the bale can be traced back, it will be a plain case. But if the bale be stripped of its covering, or re-packed, or tossed and tumbled over wharves, and cannot be identified, it is surely no fault of A's, and the sufferer, whoever he may be, must make the best of it. Now, says the “Special Committee,” it may be deemed unnecessary or quixotic for us, as merchants, to devise means of pro-

tecting the factor against the planter, because we can legally enforce recovery from the former, by returning the defective bale to him from Lowell or Manchester, without proving more than its purchase from him.” And, therefore, the Committee suggest that—

“It would be easy for him (the planter) to have the requisite number of cards printed, with his name, plantation, county, State, and year of growth, leaving his own number of the bale to be filled up in writing, and to put three such cards in different places, near the centre of each bale, while it is being packed; then compel the factor in his turn, if practicable, to mark every bale which he sells with the name of his firm. This outside mark will run less risk of defacement than if imposed at the plantation: and, together with the year of growth and planter's number upon the card, will check misuse of the cards by the spinner. It might be better if the planter would mark his name on the bale in addition to placing his cards inside.”

This all looks very fair, and if all the world were honest, would work well enough; but it might happen that the cotton would sometimes pass through hands that feel interested in *sanding* a little by the way; or the cards might be improperly used by the spinners. There are a great many kinds of people engaged in the cotton business, and the simpler every arrangement, and the plainer, the better.

Let the merchant take care of himself, and send the bale back on the factor with as heavy charges as he pleases. Let the factor come back, the plain old road, upon the planter, piling on the expense as high as he pleases. If the scoundrel be guilty, he'll pay it without a murmur, and deserves exposure into the bargain. Not much danger of its being smothered up among hands, or the offence repeated in that quarter. If not guilty, let him appeal to a jury of his neighbors, and pass through the ordeal.

THE TRIBUNE AND THE FARMER AND PLANTER.

We commend the following extract from the *Charleston Mercury* to our readers as a Spring tonic, and hope they may enjoy it. The editor of the *Tribune*, in his inimitable white coat, doubtless quietly enjoys, in his easy chair, the cool philosophy with which we take his lash.

FAS EST AB HOSTE DOCERI.—We doubt if we could frame anything more strongly in favor of the clear duty of our planters to support Mr. Stokes' excellent monthly, *The Farmer and Planter*, than the following evil minded and intended taunt of the *New York Tribune*:

South Carolina sometimes expresses her wish and determination to go along on her own hook, quite independent of all the rest of the world, and of the other States of the Union especially. But her essential feebleness and lack of certain necessary elements of prosperity, are often strikingly displayed when her people apparently least think of it. We find in a late number of *The Charleston Mercury*, an

advertisement, begging lustily for subscribers to an agricultural journal, published at the capital of the State, called *The Farmer and Planter*. The *Mercury*, in a leading article calling attention to the advertisement, says:

"Mr. Stokes issued four thousand copies of the January number, and the same of the February number, and he intends issuing four thousand of the March number; the most of the January and February issues are as dead paper, and unless support comes in time he will only issue of the April number sufficient to meet the number of his subscribers. We hope this appeal will save the journal, which, in matter and form, is creditable to the State and the agricultural interest. Help, if it comes at all, must come soon, and we trust our people will not suffer it to die."

Here is a State Agricultural journal begging for a few thousand subscribers to save it from becoming entirely extinct. Four thousand is the number printed, the most of which, we are informed, are dead paper. This means, we suppose, there are no subscribers for them. Yet it is only a monthly journal. What sort of an agricultural community can South Carolina have, that such a periodical should exhibit such an utter destitution of subscribers and readers? The fact that such a state of things exists in an old long-settle country like Carolina, in view of the activity of the free States in the same respect, one would think would occasion doubts of the excellence of the social state there, as compared with that of the non-slaveholding States. But while such reflections come to everybody outside the slave States, those within them would appear to resolutely shut their eyes to the truth indicated by the facts about them.

WHAT YEARLING MULES ARE WORTH IN KENTUCKY. —Col. C. H. Rochester, of Boyle, sold 50 head of extra yearling mules, to Levi Hubble, of Lincoln, at \$130 per head.

L. D. Goode, of Lincoln, sold to G. J. Salter, of Garrard, 63 head of yearlings, at \$140 per head.

Garret Elkin, of Garrard, sold to Malcolm Gill, of same county, 40 head fat mules, at \$175 per head.

Abram M. Vanarsdall, of Mereer, sold to John M. Alexander, of the same county, 53 head of fat mules, at \$175 dollars per head. Mr. Alexander afterwards sold the same lot to Jas. Kirk, of Marion, for \$190 per head.

King & Welsh, of Lincoln, have recently bought a lot of about 50 head from G. Jones, of Mereer, at \$155 per head, and about the same number from Dr. Wm. Tomlinson, at \$170 per head.

It is very well, now and then, to take a peep at what our neighbors are doing. If yearling mules bring such prices as the above, in Kentucky, would it not pay to raise a few for our own use? or would it not pay better to abandon mule raising for a while and devote our attention to horses more closely?—Mule raising must *ex necessitate* keep the price of both up to a high figure. A mule is but a mule—you can go no further than to get the interest on your investment in him by his work—and when you wear him out, send him to Florida, the paradise or purgatory of old mules.

By raising horses you increase the chances for

raising both mules and horses, and we are inclined to think that if we would raise the *right sort of horses*, they would serve our purpose better than mules. The introduction of railroads will do away with one of our heaviest burdens, in a great degree—wagoning—and we know that some of the best planters in the State hold the opinion, that the horse is, for all other farm work, cheaper in the long run than the mule. A *slow* mule, with \$1500 behind him, must travel over very rich land in the cultivation of a crop to pay.

CHAT WITH CORRESPONDENTS.

We heartily welcome the re-appearance of the "Old Grumbler," in our columns. The old fellow is about as flat as he is barefooted, but he has the rare virtue of putting his foot very often in the right place. "May his tracks never grow less."

The communications of Mr. LIEBER, in the last number, and the very interesting maps accompanying them, have met with a very flattering reception among our readers. They are worth, we have heard many say, the year's subscription to the *Planter*.—"We have seen, in no agricultural journal in the United States, any illustration to be compared to it for interest or usefulness to the State," is the remark of a gentleman of extensive reading and observation, as well as a No. 1 planter.

The admirable temper of the discussion between A. and B., on air and moisture, cannot be too highly commended. The writers evidently differ only in language. One writes as a "popular writer," the other as a *cautious* teacher. But we very much fear that the effort to set the people right, in the use of terms about dew, moisture, &c., will be very much like that old story of Sisyphus rolling the stone.

"Overseer" has struck a very good theme.—Sheep are worthy of a more "extensive patronage" than they receive at the hands of Southern planters and farmers.

From the Country Gentleman and Cultivator.

THE HOG CHOLERA.

MESSRS. EDITORS.—Your correspondent in No. 3, does not describe the disease known as hog cholera in this neighborhood. With us it is always accompanied with excessive purging, (succeeding the loss of appetite,) which lasts sometimes a few hours, and then again one or two days, and generally, when red blotches appear on the skin, and blood passes from the nose, the disease has run its course, and will prove fatal very soon.

I had some experience with it in June, 1858. I was feeding corn, and the hogs were running in a wood pasture, and the nearest point to a public road was 80 rods, and further to any neighbor's stock. The purging first attracted my attention in the evening of one day, and 24 hours after, we had buried 8 out of 120, though at the first sight of the disorder we had removed those not showing it.—Within three days we lost 25 head, when my attention was directed to an article in a Cincinnati paper,

from a physician, recommending some one to try alum as a substance likely to constipate the bowels. This being a cheap remedy, I prepared a bucket full of very strong solution of alum in cold water, and with a rope and slipnoose, a horn with small end sawed off to the hollow part, proceeded to dose all I could find affected. With the rope behind the tusk, we could keep the mouth up, and by shaking could compel the animal to swallow the drench poured through the horn. Out of 23 we drenched, only five died, though three were in the last stage, and were already bleeding at the nose, two of which were saved. I also fed to the lot a pound of pulverized alum in a bucket of middlings per day—fed to them as I would salt at their feeding ground—and in the course of two weeks all signs of the disease was gone, except the change in the appearance of the hogs that had been attacked, which had generally been the finest and thriftiest in the lot, but soon took the other, and many never recovered so as to make good pork when the rest were ready for market in November.

This being a very cheap and simple remedy, I would be glad to hear of others trying it, and report if it prove successful or otherwise. We have had none of it in this neighborhood since the summer of 1858.

J. T. WARDER.

Clark Co., Ohio, Jan. 21.

For the Farmer and Planter.

A DAY IN THE ORCHARD.

MR. EDITOR:—You know the old saw, "If March comes in roaring like a lion, he will go out bleating like a lamb." Well, if the *vice versa* rule holds good the old fellow will go out storming this time. I have been spending the day rambling through the orchard, and although I don't carry a "torch light" or live on a "torch hill," I saw a good many sights well calculated to trouble me.

My orchard was planted just twelve years ago, on an elevated site, fronting south—an old field reclaimed by good plowing and manuring. It has been generally cropped with potatoes, peas, sugarcane, and an occasional small grain, and manured now and then with super-phosphate of lime, ashes, stable manure or cotton seed. I began with fifty trees—healthy, vigorous looking ones. The nursery man prescribed a coating of lime and soft soap to be applied every winter or spring, to kill the ova of insects, and keep off the rabbits. I tried it once, and it killed 5 trees out of the 50. Every year I added to my stock choice varieties, until I got up to about 200. The trees grew finely, headed out well, and in about six years began to bear fruit. Every spring I washed the trunks well with some alkaline wash, examined for insects, applied lime, ashes or mulch to the roots, and thought I was getting on finely.—To-day's ramble is but a repetition of what I have experienced every season, and I will give it to you from my field notes. Here is a "Buckingham," and hard by a "Fall Mock"—fine vigorous trees—they have borne fruit freely for several years. Do you see those little smooth pink colored bumps on the limbs? Cut one with your knife: don't you see the

little dots all through it? Well, next year that smooth little bump will be converted into this ugly rough granulated black excrecence above, here.—Now take your knife and gouge into it, and you will find from one to a half dozen little white grubs with red heads, and regular brace and bit borers to them. These are the raseals that quietly and noiselessly sap the vitality of your best trees. Look here, they have followed the limbs down into the fork, and this tree is as good as dead. Some trees are more subject it seems than others—the Buckingham, Fall Mock, King and Bell Flower have been sorely smitten, in my orchard. I have followed these pink bumps, and shaved them off with my knife by hundreds, but there were always enough which escaped my eye to ruin the tree.

"Lady bug, lady bug, fly away home," sings merrily a little prattler, who has been dogging my footsteps. What's the matter, Boogle? Why, papa, look at the lady bugs just a eating up your tree.—Aha! and now what can these "lady bugs" be doing about the root of this "Strother?" It bore well last year, and has been a most luxuriant tree.—Southwest side—bark black and dead—aha! sunstroke!—look again—that won't do—it is trained with a low head, and these suckers tell of something else. In goes the knife—a black speck, cut, the water comes—deeper—yes, there's your confounded little white grub again. Following his ravages, I pick out some half a dozen more of the same sort.—But what are these hosts of "lady bugs" doing under this dead bark, and down in the ground? Boogle says I musn't hurt them, and I reckon he knows as much about it as I do. Here is an "Esopus Spitzenburg"—a luxuriant tree—didn't mature its fruit well last year—what is the matter with this limb? The knife won't reach it—Boogle, hand me that little saw that you have. There, now, right in the junction of two limbs, at the first fork, I strike three more borers. They have almost girdled the tree!

Here is a large "Russet," a very luxuriant tree, but I noticed it dropped its leaves early last fall.—All right about trunk and limbs, bark smooth, buds full, well developed, and abundant. Here's a sucker—very suspicious that! Dig away the earth—feel round with knife—dead as a door nail—all but about an inch of bark on the north side! "Aint that scandalous!" says Boogle. And I could hardly help responding to the little fellow's exclamation, who saw my sorrow at losing one of the finest trees in the orchard.

Here is a Gravenstein strangely affected, and it is the third tree of that variety which has travelled the same road—all very vigorous growers and early bearers. These limbs seem alive, but here is a black ring round this one—follow it with the knife—dead

all round—off with it—off with another, and another—here is a ring round the trunk near the ground. Sun-blight!—low head, very spreading branches, and dwarfish habit—can't be. Call a boy and have the tree dug up—never saw such a mass of healthy young and fibrous ramifications—give it up. In my rambles I met occasionally with a cocoon, near the ground, fastened to the bark closely, containing a green grub. Now, what is he? Is he a friend or or an enemy? Is he a sentinel, placed there to watch for some forayer? or is he a wolf in sheep's clothing?

N. B.—Did we ever have any of these enemies, or suffer from so many of the diseases common now to orchards, before the introduction of Northern fruit trees? Have we not erred in adopting the mulching system, the best nidus possible for harboring and hatching all insects injurious to the tree or its fruit? Are not all the northern orchards, and western even, becoming precarious? Would it not be good policy, not to go quite so fast, and try and find out where we are, and what we want?

RUSHLIGHT.

For the Farmer and Planter.

HUMBUGS.

MR. EDITOR:—It was well for you that you came out with that "inducement for subscribing for Northern agricultural journals," for I had just got my rasp out to rub you over a little for that "*Farmer and Planter Extra*," on Mapes & Co. I will let you off now, but I must be allowed to say a word or two on that advertisement.

It is a copy of the same letter addressed to the *N. Y. Observer*, and several other agricultural journals. Well, sir, the way the *Hartford Homestead* and the *N. Y. Observer* used up the Professor, in their reply, was exasperating. The editors of the *N. Y. Observer* say, "in our greenness with such special manures, we paid Mr. Mapes \$100 for two tons of his super-phosphate, and caused the same to be applied carefully to various crops, but without the evidence that the first dollar of benefit was derived from its use. We purchased the same season super-phosphate prepared in Connecticut, which gave a decided increase to the crops when it was applied." "What Mr. Mapes chooses to call 'a history of Prof. Johnson's conduct towards him,' is substantially the history of the conduct of the editors of a large number of the leading agricultural journals of our country, for years past. Till now we have remained silent." In the controversy the fact is established that "this self-styled Prof. Johnson is a gentleman and a man of science, who, even in these days of elastic consciences, is as firm and in-

flexible for right and truth, as if he got blessings instead of curses.' "

The fact is also established that he is Chemist to the State Agricultural Society, and that the Society "imposes upon him certain definite duties, in fulfilment of which he certainly is no *self* constituted servitor of the public." Mapes says, in his advertisement, "My answer to the whole tirade is, that the sales of super-phosphate about Hartford and New Haven have been five times as great in 1859 as any previous year," to which the *Hartford Homestead* responds—"this may be true, but the sales have been very small at any rate, amounting to only four tons!! all told, as stated by Mapes' agents here."

But let us look at this celebrated advertisement—this defence of the Professor's. Seven of the certificates are from Connecticut, mostly about the effects of super-phosphate on turnips, garden truck and potatoes. There are three certificates from South Carolina—all furnished by the same individual, who is, I am told, an agent of Mapes' Super-phosphate. You find "our friend, Henry Lomas, Esq., Columbia, S. C.," figuring in the *Working Farmer*, *N. Y. Day Book*, *Tribune*, and everywhere Prof. Mapes talks super-phosphate. Mr. Lomas says it is a certain preventive of rust, it makes it lint more and weigh heavier, and what is wonderful, he says, he has stalks "six feet high, and holding from *eighty to one hundred and ten bolls* to each stalk."

The agricultural editor of the *Day Book* also comes out strong for Mapes' Super-phosphate. I read the *Day Book*, and am almost willing to swear that *that* editor sometimes does up things for the *Working Farmer*.

Now, Mr. Editor, I don't want to make a martyr of Prof. Mapes, or get up a cry of persecuted patriot, and make his fortune for him by it, but I do not think, sir, that an editor who will make an effort to get into circulation such a delectable sheet as the *Banner of Light*, deserves patronage of the South; nor do I believe that an editor, who would cause to be published, articles in English journals, full of rank injustice to the Southern States, and then copy them into his own paper, deserves our patronage; nor do I believe in Dr. Sangroda's warm water and bleeding curing every malady; and, if we must have super-phosphate, and nothing but super-phosphate will do, let us go to somebody who will not betray us.

In short, Mr. Editor, I go for *spotting* everybody who is not for us, and if you can't get the genuine mineral manure from my friends, I'll go back to the old dunghill and yard-scrappings, and if that won't do, go to the Southwest, where they don't need manure. You had better look sharp or you'll feel

RASP.

Horticultural and Pomological.

WILLIAM SUMMER, EDITOR.

MONTHLY TALK WITH OUR READERS.

April, with her showers and sunshine, and days of general mildness; her flowers and early fruits, is at hand, to gladden us with the hopes of Spring, and encourage us with a rich prospect of enjoyment for our labours. Old mother Earth is ready to yield her increase, but we must be ready with the fork, the hoe, and the rake, to prepare the soil and stir about the tender vegetation. South of this the principal crops of spring vegetables will have been sown, and will now advance rapidly, giving abundant returns. Still, sowing and planting are requisite for a regular succession of most garden crops. Early York, and all the principal varieties of early Cabbages will be ready for transplanting. The ground should be well prepared and manured, and it should be kept in mind that the Cabbage should never want for the proper nutriment, from the sowing of the seed in the bed to the full perfection of the head; and a cabbage thus grown is quite different from one which is suffered to stand half its time wanting the proper nutrition to bring it to perfection. Sow Drum-head and Bergen's Flat Dutch for the principal autumn and winter crops. Keep your Asparagus beds clean from weeds, as they are very injurious. Those who have given it proper attention may now enjoy in perfection this delicious and nutritious vegetable.

Plant the principal crops of Squashes, Cucumbers, and Melons, Tomatoes, and Beans.

Melons will require the ground to be well manured with good decomposed manure. In the absence of this, use Super-phosphate, which we have found excellent for Melons and Cucumbers. Prepare the holes by making the ground deep, rich, and light, by the addition of some good vegetable mould, and, after preparing the bed by a slight elevation, give a light top-dressing of leaf-mould or old sawdust, to prevent baking. Nothing is more injurious to these tender plants than to permit the ground to bake about the young plants. Stir the soil about them after every rain; and, should the bugs affect the plants, put, carefully, a little Peruvian Guano around the plants.

Plant successional crops of Beans from the beginning to the close of the month. Be careful in selecting good kinds, such as are tender and sweet.—This, however, is to be found out by experience.—Plant Lima Beans; we grew a most abundant crop of these the past season, and attribute our great suc-

cess to the use of Super-phosphate, which we found to be a specific manure for Beans of all kinds.—They will require frequent hoeings to give them a good start.

Marrowfat Peas and late varieties should be well worked and mulched, by covering the space between the rows with leaves, rotten straw, &c. Apply this after a good season, and the crop will continue much longer in bearing.

Celery.—The plants will now be ready to set in trenches; these trenches should be three feet apart, and open one foot wide; dig the earth out one spade deep, laying it equally out on each side, in a level order. Then dig up the bottom of the trench; add good rotten manure, and dig it in. Draw up some of the strongest plants; trim the long roots and tops; plant a row along the bottom of each trench, four or five inches distance, and finish with a good watering. Earth up at the proper time for blanching.

Plant Okra now for the regular crop.

Onions.—Keep them clean and well hoed, and thin them out if too thick, according to the use for which the crop is intended.

Parsnips, Carrots, and Beets, may still be planted this month. The best soil is a rich loam, inclining to sand; but if the ground be well and thoroughly manured, ploughed or trenched deep, and pulverized finely, they will succeed in any soil. We would not only urge their cultivation upon the gardener, but all who have need for them should not omit sowing them as food for horses, sheep, and cattle. They tend greatly to improve the quantity and quality of both the butter and milk, and are healthy and nutritious.

Lettuce.—This excellent vegetable will soon be in great perfection, if grown upon soil previously made rich. We grow it abundantly not only for table use, but feed large quantities daily to our pigs; and we would suggest to our planters to grow a supply for this purpose, satisfied that they would be well pleased with the result. We give the Recipe of our friend, ROBT. CHISOLM, for preparing Salad, which is superior to any we have tried.

The Flower Garden will require constant care and attention this month. See that nothing is left undone; let all be neatness and order, for the Rose will yield you its first sweet flowers. Dahlias can be transplanted. We will publish an excellent article on the Dahlia, in our next number. Sow China Asters and other choice annuals.

In the Orchard look to the trees, and if any appearance of the caterpillar look early, to their removal. Tie up Grape Vines; Raspberries; mulch the Strawberry beds with clean litter, to protect the fruit, as the Albany, Longworth, and other

early kinds will ripen abundantly this month. If the season proves dry, give copious waterings every evening—as the Strawberry suffers most from drought—and you will have, daily, abundant supplies of this wholesome and pleasant fruit. It is at the same time one of the most certain fruits, always producing good crops if the proper care is given.—In the absence of Super-phosphate, wood-ashes and salt makes an excellent top-dressing; this is within the reach of all. Do not pull off the runners at this season; they injure the plants in our climate. Tie up Raspberry plants, if it has not been attended to; and in the Orchard, remove any decayed branches that you may observe. See that everything is in proper trim at this season of verdure and beauty, and you will be prepared to appreciate the loveliness of Spring.

We feel confident that the remedy given for the Borer, in the roots of Peach and Apple trees, will prove a valuable and efficient one: and would recommend all to try it, preparatory to making small hillocks around the stems of the Peach-trees, the first of next month.—Ed.

TO KILL WORMS IN PEACH-TREE ROOTS.

Take a small hoe, or other suitable implement, and excavate the earth from the roots of the tree to the depth that the worms usually penetrate. Then take about a pound of unslaked lime, broken into small fragments; mix it with the earth removed from the tree root, and pack the mixture into the excavation around the tree; then pour water upon the mixture in sufficient quantity to slake the lime. The heat evolved by this means, together with the corrosive quality of the lime, will, within a very few minutes, destroy every worm, even when they may have penetrated through the bark; and this, too, without injuring the tree. If half a dozen good peaches would not compensate for your labor you are no lover of fruit.

THE CHARACTER OF THE POMOLOGIST.

We have often remarked, that every occupation stamps a peculiarity upon the character of him who presents it. This is true—the Pomologist presents enviable characteristics to the rest of mankind. It seems that those who follow up nature, and who, by study, master her secrets, are listless to the vexed excitement of the business world, and by refinement of the temper, and gentleness of thought, become the best of men, in the estimation of those who scrutinize their actions. The habits of the Pomologist are frugal—his thoughts elevating. His studies lead him to make discriminations in other things than the mere distinguishing of the different varieties under his care, and even his labor to recognize those under their true name and history, amidst the confusion of names and synonymes that prevail, and perplex ev-

ery man who attempts to make improvements in fruit growing, is beneficial, and he arises from his task, pleased with having rendered service to some one. He collects and subjects to experiments the finest fruits of the world, and a happy result of his good works are apparent through the surrounding country. When he passes away, his name is held in grateful remembrance by those who feast upon the frugal luxuries which his humble usefulness presented to their enjoyments. Followers spring up like his own trees, and partaking of his zeal and intelligence, the *young sprouts* become themselves skilled in cultivation and distinguishing different fruits, and examining nicely their peculiar qualities and habits of growth, failures are prevented, and coming men are not subjected to those losses which result from ignorance, and benefits are showered on those who familiarize themselves with the true principles of production and preservation. This is the reward of the honest-hearted Pomologist—he lives not altogether for himself, but for those who surround him, and those who are to follow after him in the ever-moving march of life. Political strife never reaches his subjects—they are safe from proscription, and he is happy. The wickedness of the world does not entangle his footsteps, for his loved trees, from flower-bud to fruit, teach him lessons of virtuous innocence. He is always the man-child of purity, and goodness of heart is evidenced by the outstretched generous hands, ready to do deeds of kindness to those who are suffering. He reads and stores his mind from the interesting and instructive living pages of nature's beautiful book, and looking up to "nature's God," is ever ready to depart when he may be called to the final home.

We know such a man as we have attempted to sketch. In our childhood, through long years of excruciating agony and bodily suffering, his kindness sustained us. He taught us the beautiful lesson of planting a tree; others followed and took deep root in the fat earth around our homestead.—We planted then for the single purpose of doing something, and this was a delightful pleasure, debarred as we were, by bodily infirmity, from participating in the active avocations of life. Those dozen scions planted in childhood have become old and productive friends; better friends too than mankind has furnished us—for, with God's blessing, they are always faithful and always fruitful.

We, too, have lived long enough to have our followers, and it will be the gilding pride of our declining years, if they should entertain for us the same grateful feelings which cause us to honor and love the true-hearted man who imparted to us a taste which has relived the monotony of what would otherwise have proved an unendurable existence.

For the Farmer and Planter.

"THE FARTHEST WAY ROUND IS THE NEAREST WAY HOME"

Dick, go down to the lot and bring me up a plow; I want you to break up a square in the garden, to plant potatoes.

Dick, after an hour's absence, returns. "No plow Massa in de lot; dey all down in de bottom.

All in the bottom! you careless rascal, you!—Where is that little green plow I bought at the Fair?

He done broke, Massa. Your pattern right fixy, Massa—no fitting for nigger.

Go get me a spade then.

Away goes Dick; comes back after awhile.

Where's the spade? Can't find um, sir. Dem chil-uns I 'speek left um in de ditch. I tole um fotch um home, for sartin'.

That is the way, Mr. STOKES, with too many of us. We spend more time in hunting after our tools than it would take to do the work. A farmer who leaves his plows, hoes, spades, and mattocks scattered all over the farm, need never expect to be ready or fast. "A place for everything, and everything in its place," may not be as easy as falling off a log, to *everybody*, but there are very few of us who cannot do better if we will only try. A little head-work will often save a deal of hand-work; and, if people could only be set to *thinking*, there is no danger but they will do better and better every day.

Can't every subscriber to the *Farmer and Planter* get you another subscriber? Let him try. A good Agricultural Journal, I think, will soon show "a nearer way home." A short horse is soon curried. I am done, Mr. STOKES, and sign myself—

Yours,

HOMESPUN.

FUNCTIONS OF LEAVES.

The sense of the beautiful in every beholder receives an exquisite gratification, in gazing upon the foliage, the mantle of living green, in which the vegetable world is arrayed during the season of growth and development. Few, however, are aware of the important functions which those countless leaves perform, in the growth of plants. To the common eye they but appear as the lavish ornaments which beautify the vernal landscape, and invest each tree and shrub with a garment of loveliness. Their secret but vital functions are disclosed only to the eye of science. They are to the plant what the lungs, the stomach and the skin are to the animal. It is through them that the important functions of breathing, digestion and perspiration are accomplished.—Plants, like animals, breathe, digest their food, and throw off their surplus moisture, and, perhaps, a portion of the substances contained in their fluids, by perspiration; and those vital operations are all performed by the leaves which adorn them.

The *sap* which is absorbed by the roots, constantly ascends up the vessels of the plant, during its growth, to the leaves. Here it undergoes a change analagous

to that effected in the food of animals, in the process of digestion. The superfluous water is thrown off by the perspiration of the leaves; while that which remains is converted into the juice, called the *true sap*, which, like the blood of animals, in its after circulation, furnishes the various substances found in plants.

The leaves, as intimated, are the perspiratory organs of the plant. The office of perspiration or transpiration is performed by the under side of the leaf, and may be almost entirely stopped by spreading varnish on that surface. The quantity of moisture thus thrown off is much larger during the day than during the night. Dr. Hales found that a cabbage transmitted daily a quantity of water nearly equal to half its weight.

The leaves of plants absorb from the atmosphere carbonic acid, in the form of gas. This is a combination of carbon or charcoal with oxygen, one of the constituent gases of the atmosphere. The acid is decomposed, the carbon being retained by the plant, and composing a large part of its substance, while the oxygen is emitted. The absorption of carbonic acid takes place in the light, the influence of which is essential to the process. This fact explains the phenomenon, that plants cease to grow, and that they languish and perish, when deprived of light.—It is ascertained that trees derive a large portion of their carbon or woody substance from the carbonic acid absorbed by their leaves from the air. Van Helmont planted a willow, which weighed five pounds, in a pot containing two hundred pounds of earth. This he watered for five years, and, at the end of that time, the tree was found to weigh one hundred and sixty-nine and a quarter pounds, while the earth in which it had stood was found to have lost only two ounces. From whence did the tree derive that large mass of carbon which constituted the chief portion of its increased weight? Undoubtedly from the atmosphere—the carbonic acid absorbed by its leaves; the water, with which it was supplied, holding a portion of carbon in solution, may have furnished a part of it: but the carbonic acid of the air must have been the chief source of supply.

Plants, during the day, emit oxygen, the vitalizing element of our common air, through their leaves.—This is derived from the carbonic acid, as it is decomposed, for vegetables are found not to emit oxygen unless carbonic acid be present.

During the night the leaves of the plants absorb oxygen, and form with it carbonic acid, a part of which they emit, and a part is retained.

By this process of absorption of carbonic acid by the leaves of plants, the atmosphere is purified by that portion of it which, in the form of gas, is so noxious, and, when concentrated, so fatal to animal life, it being the noxious air found in deep wells, and which arises in the fumes of burning charcoal. Thus is this substance in nature—breathed into the atmosphere from the lungs of myriad animals, and diffused from the decomposition of animal and vegetable substances, and which, if not diminished, would render the air we breathe unfit to sustain life—absorbed and converted into the firm substance of innumerable trees and shrubs, while its oxygen is returned to the atmosphere to revivify it.

Finally, the leaves of plants absorb water, as well as carbonic acid and oxygen. It is found that a plant which is dying for want of moisture at the root, will revive and grow, when a branch with

leaves is placed in a vessel of water. A beautiful illustration of this fact is also beheld in the renewed greenness of the leaves after a Summer shower—the parched landscape appears to smile with gladness, as if conscious of the blessing it has received.—*Kentucky Cultivator*.

A LIQUID FERTILIZER FOR CHOICE PLANTS.

BY AN AMATEUR.

Dear Sir :—I am confident that there are many of your lady readers, and perhaps many of the other sex, who are puzzled among the many *new manures*, and having failed with some, and injured their plants with others, they end by raising only sickly and meagre plants, when they might have them presenting a luxuriant and satisfactory appearance—with leaves of the darkest green, and flowers or fruit of double the usual size.

Having made a trial for three years past, with a perfectly safe and satisfactory liquid fertilizer, which appears to suit all kinds of vegetation, which is clean and easily applied, and procured without difficulty, in any town, I confidently recommend it to your readers, especially those who wish to give especial pains to, and get uncommon results from, certain favorite plants—either in pots or in the open garden—plants, whose roots are within such a moderate compass, that they can be reached two or three times a week, if not oftener, by the watering-pot.

This liquid fertilizer is made by dissolving half an ounce of sulphate of ammonia in a gallon of water.

Nothing so good can be cheaper, and the substance may be obtained at almost any apothecary's.

Now for the mode of using it. I may say, at the outset, that weak as this solution appears to be, and is, if plants are watered with it daily, they will die—just as certainly as a man will who drinks nothing but pure brandy.

The right way to apply it is, to water the plant with this solution every sixth time, the other five times with plain water.

The proportion is so simple, and the mode of using it so easy to understand, that the most ignorant person cannot possibly blunder about it, if he can count six. If we prepare the solution occasionally, and water our plants in pots every Saturday, with this ammonia water, and all the rest of the time with plain water, we shall have a safe rule.

The result will, I am sure, both delight and surprise every person who will make a trial of it. It has become such an indispensable thing with me, that I regularly mix a barrel of it every Friday, and use it on Saturday, upon any plants that I particularly wish to invigorate and stimulate. I do not know that I have seen a single instance of its disagreeing with any plant, ammonia being the universal food of vegetation. Of course, the more rapid growing plants, those with foliage that perspire a great deal, are most strikingly benefitted by it. Of course, also, plants that are at rest, or not in a growing state, should not be fed with it; but any plant that is about starting, or is actually in a growing state, will not fail to be wonderfully improved by it. Many plants that have fallen into a sickly state, by reason of a poor or worn-out soil, will, usually, in the course of a month, take quite another aspect, and begin to develop rich, dark green foliage. I will enumerate some of the things that I have had great success with.

Strawberries.—Beds of indifferent appearance at the opening of the Spring, last season, after being watered four times with this solution, grew very luxuriantly, and bore a crop of remarkably fine fruit. This year I have repeated the experiment on half of every bed; both foliage and blossoms are as large again on the watered, as on the unwatered bed; and, by way of comparison, I have watered some with plain water also, and find, though rather benefited, (for the strawberry loves water,) they have none of the extra depth of verdure and luxuriance of those watered with ammonia.

Early Peas.—At least a week earlier than those not watered, and much stronger in leaf and pod.

Fuchsias.—A surprising effect is produced on this plant, which, with the aid of ammonia water, will grow in very small pots, with a depth of verdure, a luxuriance and a profusion and brilliancy of bloom, that I have never seen equalled. Old and stunted plants are directly invigorated by it.

Dwarf Pears.—Some sickly trees, that I have given the best attention for three years previously, without being able to get either good fruit or healthy foliage, after being watered four times with the solution—of course with the usual intermediate supply of common water—became perfectly healthy and luxuriant, and have ever since (two years) remained so.

Dahlias.—Which I have never succeeded well with before, have done beautifully with me since, flowering most abundantly and brilliantly, when watered in this way. In all out-of-door plants, if mulching is used, only half the quantity of plain water is needed. For plants in pots, I consider it invaluable; and gardeners who wish to raise specimen plants for exhibition, will find this mode of watering them, every sixth time with the solution, to produce a perfection of growth not to be surpassed in any other way.

CARE OF OLD APPLE-TREES.

Many farmers who have old apple orchards are neglecting them, and in many cases cutting them down, to make room for young trees. This is poor policy, to say the least. Old trees, by the exercise of a little care and skill in managing them, may be made almost as productive as young ones, and in a much shorter time. All that is essentially requisite to ensure this result, is to trim them, carefully cutting away all the diseased and broken limbs, and to free the trunks and larger limbs of the "scurf" and moss, and afterwards to insert grafts—care at the same time being taken to lighten the soil, and make it rich, especially in the vicinity of the roots. In renewing an old orchard, something like the following course may be advantageously pursued—the proprietor having first examined the trees, and decided whether they have sufficient vitality to renew their former energy under proper treatment.

In April or May, we should remove the rough bark from the body and large limbs of the trees with a scraper, an implement like those used by boat builders in removing the resin from the seams of boats and vessels, and afterwards scour the entire surface with a mixture of sharp sand and ashes, mixed with soap and water. Every limb should be treated in the same way, whether large or small, that can be come at conveniently, and care taken that all the moss and rough bark is removed.

The trimming should not be undertaken until about

the middle of June, when all crooked and diseased wood should be removed with the sharpest tools, reserving only such shoots and small limbs as are of suitable size to graft. If the trees are old and very much decayed, the number retained for this purpose should be small, as there may possibly not be enough energy or vital power in the system to sustain a large number, and as too dense a top will necessarily tend to abridge the recuperative action by producing too much shade.

The soil should also be thoroughly loosened around the roots, and filled with strong and invigorating manure, and kept entirely free from weeds and grass. The best stimulus, probably, that can be applied, is a compost made of forest leaves, well decomposed, house ashes, lime, gypsum, and common stable manure. From fifteen to twenty bushels of this should be allowed to every large tree, and so worked into and incorporated with the soil as to ensure its coming in close contact with the roots. If the soil be of a light, arenaceous, or sandy texture, a load of fine clay should be spread over the surface, above the manure.

In removing the limbs, all the stumps should be coated with wax or tar, softened with tallow, or what is equally cheap, and more easily applied, gum shellac dissolved in alcohol. The reason why so many old trees perish after the abscission of the larger limbs, is, that no care is taken to ensure the healing of the wounds, which let out the life-blood and energy of the system during the ascent of the sap, leaving long, black lines of decaying bark as a perpetual reproach to the unskilful or perverse manager.

The second year the trees may be grafted, and if the tops promise not to be thick enough, new branches may be permitted to start, to be engrafted subsequently, and in such places as will ensure a symmetrical and desirable form to the tops. The most eligible shape for an apple-tree is that of an umbrella reversed; but this must be a matter of taste with most persons.

So far as working the soil and manuring is concerned, our method refers to trees standing by themselves; where they are regularly set in orchard form, the best way would be to plow the whole surface carefully and manure broadcast.

This course may seem too precise and expensive to some persons, but if so, let them try the cleansing, pruning and manuring process, on a single declining tree, that they have long valued, and see what a wonderful restoration will be effected.—*N. E. Farmer.*

SALSIFY, OR VEGETABLE OYSTER.

Salsify (*Tragopogon*) is a hardy biennial, a native of meadows in Switzerland, Germany, and of some of the Southern counties of England, where it displays its purple flowers toward the end of Summer.

It is deemed wholesome and nutritious, and is much esteemed wherever cultivated. It has a sweetish, delicate flavor, and forms an excellent variety, and agreeable side dish for the table, throughout the Winter season.

There are several modes of cooking this root; when dressed with cream, they are very delicious; but the following is recommended as one of the best: Previously to boiling the roots, let them be lightly

scraped, and then laid in water for about an hour, to draw out any little bitterish taste they might happen to have; this, however, is rarely the case, except when they are grown in moist heavy soils.—After the roots have been in the water the time mentioned, they should be boiled till they are quite tender, when they are to be taken out and laid to drain for a short time, during which a thick batter should be made with the yolk of eggs, beat up a little flour, in which the roots are to be dipped, and, after having been rolled in crumbs of bread, fried with a small piece of melted butter, previously put into the pan, they should be frequently stirred, and when observed of a deep brown color, they will be ready for table.

Another Method of Cooking.—Boil till the skin will come off easily. When you have taken it off neatly, cut the roots in bits as long as an oyster; put into a deep vegetable dish a layer of crumbs of bread or crackers, a little salt and pepper and nutmeg, and a covering of butter as thin as you can cut it, then a layer of oysters, till your dish is filled, having crumbs at top. Fill the dish with water, and brown them handsomely. They can remain two hours in the oven without injury, or be eaten in half an hour.

Culture.—The salsify, as before observed, being biennial, can only be propagated by seed, which should be sown in a light rich piece of ground, previously well worked, to the depth of twelve or fifteen inches, towards the end of February, but not sooner, otherwise the plants will be apt to run to seed. The best way of sowing the seed is in shallow drills, drawn about a foot apart, where, after being regularly covered, the plants will soon make their appearance; and if observed to rise in clusters, they must be thinned to the distance of two or three inches, either with the hand or with a small hoe.

In the course of a month or six weeks, they may be finally thinned out to six or eight inches apart.—But little more will require to be done, except keeping them clear from weeds, till the end of November; when, after being cleared of decayed leaves, they are to be taken up (taking care not to cut or injure any part of the root) and laid in dry sand for occasional use throughout the Winter. When that season is mild, the roots are apt to take a second and early growth, which must be checked by their being taken out and relaid, otherwise much of their nutritious qualities will be lost. The same holds good in regard to all culinary vegetables of a like nature, when preserved in a dry state under cover.

Scorzonera may be cultivated and dressed in the same manner as salsify.

NECESSITY OF RELAXATION.—Bayard Taylor says—and truly—in one respect we might probably imitate the Germans. Our sorest need, as a people, is recreation—relaxation of the everlasting tension of our laborious lives. Among our Teutonic cousins, a certain amount of recreation, public as well as domestic, is a part of every man's life. The poorest laborer has his share—must have it—and the tread-mill round of his years is brightened and sweetened by it. Our seasons of recreation being so rare, too frequently take the character of excess. They are characterized by the same hurry and flurry with which we prosecute our business. If we shall ever intercolate regular periods of genial relaxation in our working calendar, we shall be a healthier and happier people than we are now.

TAKE CARE OF YOUR EYES.—One of the most eminent American divines, who has for some time been compelled to forego the pleasure of reading, has spent thousands of dollars in vain, and lost years of time, in consequence of getting up several hours before day and studying by artificial light. His eyes will never get well.

Multitudes of men and women have made their eyes weak by the too free use of eyesight in reading small print and doing fine sewing. In view of these things, it will be well to observe the following rules in the use of the eyes:

Avoid all sudden changes between light and darkness.

Never begin to read, or write, or sew, for several minutes after coming from darkness to a bright light.

Never read by twilight, or moonlight, or on a very cloudy day.

Never read or sew directly in front of the light, or window, or door.

It is best to have the light fall from above obliquely, over the left shoulder.

Never sleep so that, on the first awakening, the eyes shall open on the light of a window.

Do not use the eyesight by light so scant that it requires an effort to discriminate.

The moment you are instinctively prompted to rub the eyes, that moment cease using them.

If the eyelids are glued together, on waking up, do not forcibly open them, but apply the saliva with the finger—it is the speediest dilutant in the world; then wash your eyes and face in the warm water.

THE WAY TO GET WEALTH.—Never was money so scarce, everybody says, and everybody, we believe, is justified in making the remark. Silver may be plentiful in bank, gold may be abundant at Fraser River, but neither can be picked up along the streets by men too indolent to work, or women too extravagant to study economy. They will now discern that

"'Tis a very good world that we live in
To lend, or spend, or to give in;
But to beg or to borrow, or to get a man's own,
'Tis the very worst world that ever was known."

The proverb is an old one, but just as applicable to our time as those of our ancestors. Poverty has not much credit in bank-parlors, though wealth is frequently less reliable, unless accompanied by honest principle. The only thing to be depended upon in these days is industry; that is the best financial institution; it never fails. Abstemiousness and frugality are the best bankers; they allow a handsome interest, and never dishonor a draft drawn on them by their humblest customers. That's our opinion of the matter.

NUTRITIVE QUALITIES OF SUGAR.—As by salts and acids, so by sugar and honey, is the quantity of the digestive juices increased, and the digestion promoted. And the sugar, while being digested, enriches the gastric juice with a substance which assists in dissolving the aliments; for the sugar, on coming in contact with the saliva, has been partly transformed into lactic acid, which acts upon the alimentary principles in the same manner as does the hydrochloric acid of the gastric juice. For this reason, sugar at once appears infinitely better than its reputation. But even to the present time, the popular belief that sugar injures the teeth is as widely

spread as, on the counter-testimony of both experience and science, the opposite doctrine ought to be. The teeth of the negroes of the West Indies—a community remarkable for the abundance of sugar consumed among them—are of a bright white. Phosphate of lime is the chief constituent of the bones and teeth, but not before adult age; and an increase of the phosphate of lime is the essential characteristics of the development of the bones of children. Lactic acid dissolves the phosphate of lime of the food; and as sugar indirectly supports this solution, it facilitates the conveyance of lime to the teeth.—To this it may be objected that sugar causes pain in a hollow tooth; but, like sugar, a thousand other substances, irritate the nerves. Sugar is not dangerous to the teeth, but, on the contrary, assist in providing them with lime; it is also useful to the stomach, if it does not, by being taken in excess, produce too great a quantity of lactic acid.

THE GEOGRAPHY OF CONSUMPTION.—Consumption originates in all latitudes; from the equator, where the main temperature is 80°, with slight variations, to the higher portion of the temperate zone, where the mean temperature is 40°, with sudden violent changes. The opinion, long entertained, that it is peculiar to cold and humid climates, is founded on error. Far from this being the case, the tables of mortality warrant the conclusion that consumption is more prevalent in tropical than in temperate countries. Consumption is rare in the Arctic regions, in Siberia, Iceland, the Faroe Islands, the Orkneys, Shetlands, and Hebrides. And in confirmation of the opinion that it decreases with the decrease of temperature, it is shown, from extensive data, that in northern Europe it is most prevalent at the level of the sea, and that it decreases with increase of elevation to a certain point. It is uniformly more fatal in cities than in the country.—Dr. Hall, of the *Journal of Health*, says to his consumptive friends: "You want air, not physis; you want pure air, not medicated air; you want nutrition, such as plenty of meat and bread will give, and they alone. Physis has no nutriment; gasping for air cannot cure you; monkey eapers in a gymnasium cannot cure you; and stimulants cannot cure you. If you want to get well, go in for *beef, and out-door air*, and do not be deluded into the grave by advertisements and unreliable certifiers."

ENERGY.—It is astonishing how much may be accomplished in self-culture by the energetic and the persevering who are careful to avail themselves of opportunities, and use up the fragments of spare time which the idle permit to run waste. Thus Ferguson learned astronomy from the heavens while wrapped in a sheepskin on the Highland hills.—Thus Stone learned mathematics while working as a journeyman gardener; thus Drew studied the highest philosophy in the intervals of cobbling shoes; thus Miller taught himself geology while working as a day-laborer in a quarry. By bringing their mind to bear upon knowledge in its various aspects, and carefully using up the very odds and ends of their time, men such as these, in the very humblest circumstances, reached the highest culture, and acquired honorable distinction among their fellowmen. It was one of the characteristic expressions of Chatterton, that God had sent his creatures into the world with arms long enough to reach anything, if they chose to be to the trouble.

The Apiary.

"In the nice bee what sense so subtly true,
From poisonous herbs extracts the healing dew."

SWEETS FOR THE PEOPLE.

All our readers will recollect what an excitement was created by the belief that in the *Sorghum* was found a plant that would enable the farmers of the North to supply their own families with all the syrup, and perhaps sugar, they would need. Others were elated at the idea of becoming growers and manufacturers of syrup, and it was confidently prophesied that enough could cheaply be grown by Northern farmers to furnish the market. We will not undertake to say how far these hopes have been or may be realized, but we do say that almost every section of our country can supply itself with the most delicious sweet ever provided for the use of man. It is scattered all over the land, in the forest, on the prairie, on the mountain, in the valley, in the garden, and the field. It needs no crushing, no manufacturing, no cleansing with lime or eggs, but is grown pure, and to be had for the gathering.—Nature, too, has provided workers for gathering this sweet, that will work if only invited, and treated decently, without pay, and board themselves; so that this delicious sweet can be had almost "without money and without price."

Honey enough is wasted in this country every year, by being left ungathered, to supply every family; and we saw a careful calculation made by a gentleman, which went to show that enough might be gathered in the State of New York to pay its taxes. If honey is so plenty, and the keeping of Bees so profitable, it may be asked why this interest is so sadly neglected? To this we will briefly reply.

1st. Those who are not acquainted with Bees think them vicious insects, laying in wait to inflict pain with their terrible sting on every one who comes near them. They approach their hives with fear and trembling, ready to start and run at the first sign of an attack; and if a Bee approaches them, singing ever so gently and peaceably, they are ready to retreat, fighting as they go, to keep off the enemy, and it is not strange if the little Bee gets enraged at the insult, and they thus bring on themselves the evil they were so anxious to avoid.

If Bees were without stings, like flies, every farmer would have a number of hives; they would be seen in every garden, and every table would be well supplied with honey each day in the year. Now, the majority of people never taste honey, and with the few it is a luxury to be enjoyed only occasionally. We cannot, of course, extract the sting from the Bee, nor would it be desirable to do so if we could, for it is needed as a protection against enemies; but we can tell our readers that when they manage their Bees properly they have very little cause to fear their stings, as they will not attack any one unless injured or made angry in some way, which can easily be avoided. We have examined them and handled them, and never yet received a sting which we could not attribute to our carelessness.

2d. Under improper treatment, and with little knowledge of the habits of the Bee, and its great

enemy, the *Moth*, many have been unsuccessful.—Hundreds of hives have been destroyed, and many have become discouraged and given up the business. Of this there is no necessity, for a little watchfulness and care will prevent any serious mischief from this source. Of this and all other matters connected with Bee-culture, we design to keep our readers well informed.

THE ROSE.—I saw a rose perfect in beauty; it rested gently upon its stalk, and its perfume filled the air. Many stopped to gaze upon it and taste its fragrance, and its owner hung over it with delight. I passed it again, and behold it was gone—its stem was leafless—its roots had withered—the enclosure which surrounded it was broken. The spoiler had been there: he saw that many admired it, and knew it was dear to him who planted it, and besides it he had no other to love. Yet he snatched it secretly from the hand that cherished it; he wore it on his bosom till it hung its head and faded; and when he saw that its glory had departed, he flung it rudely away. But it left a thorn in his bosom, and vainly did he seek to extract it, for it pierces the spoiler even in his hour of mirth. And when I saw that no man who had loved the beauty of the rose gathered again its scattered leaves, or bound up the stalk which the hand of violence had broken, I looked earnestly at the spot where it grew, and my soul received instruction. And I said—Let her who is full of beauty and admiration, sitting like a queen of flowers in majesty among the daughters of woman, watch, lest vanity enter her heart, beguiling her to rest proudly upon slippery places, and be not high minded, but fear.—*Mrs. Sigourney.*

VALUE OF OUR FORESTS.—The *Baltimore Exchange* says: "Those persons who have been accustomed to regard the pine forests of the South as of little commercial importance, will be surprised to learn that the annual value of the hewn timbers, the sawed plank, boards, scantling, rosin, pitch, and turpentine, is estimated to be not less in the aggregate than from twelve to fifteen millions of dollars." This estimate is probably far too low for the present, and certainly falls far short of what may be expected in a few years, when the fact is demonstrated that no point where timber is abundant is inaccessible to the wants of commerce. It appears that the forests constitute not only the staple product, but the real wealth of North Carolina. Her tar, pitch, and turpentine, are used in every corner of the globe. The amount shipped to England during the year 1859 is valued at \$2,176,870.

FOR SPRAINS IN ANIMALS.—Mix together half a pint soft soap, one ounce spirits turpentine, two ounces spirits camphor, half a pint strong vinegar, and rub the limb affected thrice a day for a few days, taking care before each rubbing to wash the part with warm water and castile soap, and drying it with a cloth before each rubbing.

LENGTH OF A MILE IN DIFFERENT COUNTRIES.—England and America, 1,760 yards; Italy, 1,470 yards; Scotland and Ireland, 2,200 yards; Poland, 4,400 yards; Spain, 5,020 yards; Germany, 4,880 yards; Sweden and Denmark, 7,220 yards.

Domestic Economy, Recipes, &c.

RECIPE FOR LETTUCE SALAD.—Select fine heads, and shred up finely upon a clean board with a sharp knife. Use a large bowl for preparing it. Put in salt and mustard: then add the hard boiled eggs, chipped or mashed fine; then cream, (we use cream entirely instead of oil, and find it superior, only it requires more cream than oil,) a little at first, stirring it well; then more cream, until the required quantity is put in; lastly add vinegar to suit the taste.

ROBT. CHISHOLM.

BAKED BEANS.—Few people know the luxury of baked beans, simply because few cooks properly prepare them. Beans, generally, are not cooked half long enough. This is our method: Two quarts of middling sized white beans, two pounds of salt pork, and one spoonful of molasses. Pick the beans over carefully, wash, and add a gallon of boiling hot soft water; let them soak in it over night; in the morning put them in fresh water and boil gently till the skin is very tender and about to break, adding a teaspoonful of saleratus. Take them up dry, and put them in your dish, stir in the molasses, gash the pork, and put it down in the dish, so as to have the beans cover all but the upper surface; turn in boiling water till the top is just covered; bake with a steady fire four or five hours. Watch them and add more water from time to time as it dries away.

YEAST.—To make good yeast, boil two ounces of the best hops in a gallon of water for half an hour: strain it, and let it cool down to the heat of new milk; then put in a small handful of salt, and half a pound of moist sugar; beat up one pound of the best flour with some of the liquor, and then mix all well together. Two days after, add three pounds of potatoes, boiled and then mashed, to stand for four and twenty hours; then put it into bottles, and it will be ready for use. Stir it frequently while making, and keep it warm. Before using, shake the bottle well up. It will keep in a cool place for two months.

OLD ENGLISH CHRISTMAS PLUM PUDDING.—To make what is termed a pound pudding, take of raisins well stoned, currants thoroughly washed, one pound each; chop a pound of suet very finely, and mix with them; add a pound of bread finely crumbled, and just flour enough to chop your suet, three ounces of sugar, one ounce and a half of grated lemon peel, a blade of mace, half a small nutmeg, one teaspoonful of ginger, half a dozen of eggs, well beaten; work it well together, put it into a cloth, tie it firmly, allowing room to swell, and boil not less than five hours. It should not be suffered to stop boiling.

COOKIES.—Two eggs, one cup of sugar, one of butter, and one-half teaspoonful of saleratus, dissolved in one tablespoonful of milk. Beat the eggs and sugar very thoroughly before adding the butter, cold. Add flour sufficient to roll.

APPLE CUSTARD.—To make the cheapest and best every-day farmer's apple custard, take sweet apples that will cook, pare, cut, and stew them; when well done, stir till the pieces are broken; when cool, thin with milk to a proper consistency, and bake with one crust, like a pumpkin pie. Eggs may be prepared and added with milk, if handy, though it will do without. No sweetening is necessary. It may be seasoned with any kind of spice to suit the taste, the less the better.

APPLE MELON PIES.—Prepare the melon for stewing, same as squash. To 1 pint stewed melon add 1 teaspoon tartaric acid, bit of butter size of a large hickory-nut, sugar and spice to taste; bake as apple pie. The melon should be stewed four or five hours. A lemon cut up and stewed with the melon is better than acid: gives a rich, fine flavor. Vinegar will do in place of acid, but it is not as good.

WASHING PRINTS.—To wash prints, delanes, and lawns, which will fade by using soap, make a starch water similar for starching prints; wash in two waters without soap; rinse in clear water. If there is green in the fabric, add a little alum to the starch water.

FRENCH ROLLS.—Rub two ounces of butter into one pound of flour. Mix in the whites of three eggs beaten into a froth, and a spoonful of yeast.—Milk to make a stiff dough, and salt. They can be made over night, and divided into rolls for breakfast. Bake ten minutes.

FOR BURNS.—Two ounces of sage, two of mutton tallow, two of rosin, and two of beeswax. Boil the sage and strain it. Then put all together over a moderate fire, and stir till all is dissolved. Bring to a boil, and pour in old rum till it stops boiling. It is first rate.

OINTMENT FOR PILES.—Take a large handful of the green leaves of Stramonium, (Jamestown weed) and simmer them in fresh butter or lard for two or three hours: then strain and use once or twice a day, externally, when occasion requires. This is a valuable recipe.

CURE FOR FOUNDER.—Take six eggs, beat them as you would for custard; mix them with one pint of vinegar; pour it down as soon as you discover the horse to be foundered. Founder originates in the stomach.

TO RELIEVE PHTHISIS.—When common mullein is in bloom, gather the leaves and dry them in the shade. When you feel symptoms of an attack, pulverize the leaves and smoke them in a pipe.

LEMON CAKE.—One pound of sugar, three-quarters of a pound of butter, seven eggs, one pound of flour, the juice of one lemon, and the rinds of two. Bake in a moderate oven.

JELLY CAKE.—Four cups of flour, three of sugar, one of butter, one of sour cream, five eggs, one teaspoonful of saleratus. Bake thin, and spread a layer of jelly between. This is excellent.

MAXIM.—A good cook never sticks a fork into meat while cooking, as it leaves a place for the juices to escape through.